



**University of
Zurich**^{UZH}

**Zurich Open Repository and
Archive**

University of Zurich
University Library
Strickhofstrasse 39
CH-8057 Zurich
www.zora.uzh.ch

Year: 2009

Egypt in the Eastern Mediterranean during the Old Kingdom: An Archaeological Perspective

Sowada, Karin N.

Abstract: This study presents a revised view of Egyptian foreign relations in the eastern Mediterranean during the Old Kingdom (3rd-6th Dynasties) based on an extensive analysis of old and new archaeological data, and its relationship to the well-known textual sources. The material demonstrates that while Egypt's most important relationships were with Byblos and the Lebanese coast generally, it was an active participant in the geo-political and economic affairs of the Levant throughout much of the third millennium BC. The archaeological data shows that the foundation of these relationships was established at the beginning of the Early Dynastic Period and essentially continued until the end of the 6th Dynasty with ebbs, flows and changes of geographical and political emphasis. It is argued that, despite the paucity of textual data, the 4th Dynasty represents the apogee of Egypt's engagement in the region, a time when the centralised state was at the height of its power and control of human and economic capital. More broadly, this study shows that Egyptian interaction in the eastern Mediterranean fits the pattern of state-to-state contact between ruling elites which was underpinned by official expeditions engaged in gift and commodity exchange, diplomatic endeavours and military incursions.

Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-143040>

Monograph

Published Version

Originally published at:

Sowada, Karin N. (2009). Egypt in the Eastern Mediterranean during the Old Kingdom: An Archaeological Perspective. Fribourg, Switzerland / Göttingen, Germany: Academic Press / Vandenhoeck Ruprecht.

Sowada Egypt in the Eastern Mediterranean during
the Old Kingdom

ORBIS BIBLICUS ET ORIENTALIS

Published on behalf of the BIBLE+ORIENT Foundation
in co-operation with
the Department of Biblical Studies, University of Fribourg (Switzerland),
the Egyptological Institute, University of Basel,
the Institute of Archaeology, Near Eastern section, University of Berne,
the Institute of Biblical Research, University of Lausanne,
the Department of Religious Studies, University of Zurich,
and the Swiss Society for Ancient Near Eastern Studies

by

Susanne Bickel, Othmar Keel, Thomas C. Römer,
Bernd U. Schipper and Christoph Uehlinger

About the author

Karin Sowada obtained a Bachelor of Arts degree in 1989 with first class honours in Archaeology from the University of Sydney, Australia. She gained a PhD from the same university in 2002 for a dissertation entitled 'Egypt in the Eastern Mediterranean during the Old Kingdom: a Re-appraisal of the Archaeological Evidence'. She has worked on archaeological projects in Jordan, Australia and Egypt, and in 1996, was Field Director for the Australian Centre for Egyptology's excavations at the Teti Pyramid cemetery at Saqqara.

Sowada has published many books, articles and essays on topics ranging from Egyptian foreign relations, mummies, cemetery archaeology, sculpture and ceramics. From 1996 to 2005, she was Assistant Curator of the Nicholson Museum at the University of Sydney, during which time she curated a number of exhibitions and conducted extensive research on the Egyptian collection. This included the Mummy Research Project and work on the history of the collection and its key benefactor, Sir Charles Nicholson. Prior to this, she served as a Senator in the Commonwealth Parliament from 1991 to 1993.

She is currently an Honorary Research Associate in the Department of Ancient History at Macquarie University and the Department of Archaeology at the University of Sydney and lives at Bondi Beach, Sydney, with her husband Armon Hicks and two children.

Karin N. Sowada

Egypt in the Eastern Mediterranean during the Old Kingdom

An Archaeological Perspective

With a contribution by Peter Grave

Academic Press Fribourg
Vandenhoeck & Ruprecht Göttingen

Publication subsidized by the Swiss Academy of Humanities and Social Sciences

Internet general catalogue:

Academic Press Fribourg: www.paulusedition.ch

Vandenhoeck & Ruprecht, Göttingen: www.v-r.de

Camera-ready text submitted by the author

© 2009 by Academic Press Fribourg, Fribourg Switzerland
Vandenhoeck & Ruprecht Göttingen

ISBN: 978-3-7278-1649-9 (Academic Press Fribourg)

ISBN: 978-3-525-53455-7 (Vandenhoeck & Ruprecht)

ISSN: 1015-1850 (Orb. biblicus orient.)

For Kate, Lily and Armon,
with grateful thanks for their patience.

TABLE OF CONTENTS

List of Tables and Charts	xii
List of Figures and Plates	xiii
Abbreviations	xv
Photographic and design credits	xviii
Foreword	xix
Abstract	xxi
CHAPTER 1 <i>Studies in Old Kingdom foreign relations: a survey</i>	
1.1. Introduction	1
1.2. Defining the parameters of this study	2
1.3. Studies in Old Kingdom foreign relations	5
1.3.1. The problematic textual record	5
1.3.2. The primacy of the northern Levant	7
1.3.3. The position of Canaan	10
1.4. Research method, problems and priorities	16
1.4.1. Research method	16
1.4.2. Understanding the Egyptian archaeological repertoire	18
1.4.3. Identifying objects as Egyptian	19
1.4.4. The need for more micro-archaeology	22
1.5. Conclusion	23
CHAPTER 2 <i>Patterns of Egyptian foreign relations in the Early Bronze Age I and II</i>	
2.1. Introduction	25
2.2. The Early Bronze Age I - Naqada IIB/IIIC1	25
2.3. The Early Bronze Age II - Early Dynastic Period	28
2.3.1. Egypt and southern Canaan at the end of the EB IB	29
2.3.2. Early Dynastic Egypt and the 'foreign lands'	30
2.3.3. The development of complex society in Canaan and the role of Egypt	33
2.3.4. Egyptian material in Canaan and the problem of identification	34
2.3.5. The case of Beth Yerah	36
2.3.6. Commodities imported into Egypt	37
2.3.7. Abydos Ware and its origins	39
2.3.8. The role of Arad	44
2.3.9. The Sinai, turquoise and copper	45
2.3.10. Egyptian stone vessel imports in the EB II	48
2.4. Conclusion	50

CHAPTER 3 *A corpus of imported material in Egypt*

3.1.	Introduction	54
3.2.	Kom el-Hisn	54
3.3.	Giza	54
3.3.1.	Ceramics	55
3.3.2.	Raw materials	74
3.4.	Abusir	76
3.5.	Saqqara	80
3.6.	Dashur	81
3.7.	Meydum	82
3.8.	Sedment	83
3.9.	Deshasha	83
3.10.	Matmar	83
3.11.	Mostagedda	84
3.12.	Qau el-Kebir	84
3.13.	Ballas	84
3.14.	Edfu	84
3.15.	Elephantine	85
3.16.	Unprovenanced	86
3.17.	Conclusion	86

CHAPTER 4 *A corpus of Egyptian imports in Canaan*

4.1.	Introduction	91
4.2.	The Sinai	91
4.2.1.	Archaeological sites	91
4.2.2.	Inscriptions	91
4.2.3.	Ceramics	92
4.3.	Numeira	93
4.4.	Bab edh-Dhra	94
4.4.1.	Carnelian beads	94
4.4.2.	Shell and other beads	94
4.4.3.	Maceheads	95
4.4.4.	Palettes	95
4.4.5.	Cylinder seals	97
4.4.6.	Pottery	98
4.4.7.	Stone vessels and other stone objects	99
4.5.	Tel Halif (Lahav)	100
4.5.1.	Carnelian beads	100
4.5.2.	Faience beads	100
4.5.3.	Beads - other materials	101
4.5.4.	Palettes	101
4.5.5.	Stone vessels	102
4.6.	Lachish	102
4.6.1.	Beads	102
4.6.2.	Stone vessels	103

4.7.	Tel Erani	103
4.7.1.	Palettes	103
4.7.2.	Stone vessels	103
4.8.	Tel Yarmuth	104
4.8.1.	Beads	104
4.8.2.	Palettes	104
4.8.3.	Stone vessels	105
4.8.4.	Pottery	109
4.8.5.	Raw materials	109
4.8.6.	Architectural features	110
4.8.7.	Discussion	110
4.9.	Jericho	110
4.10.	Ai (et-Tell)	111
4.10.1.	Beads	111
4.10.2.	Palettes	111
4.10.3.	Stone vessels	111
4.10.4.	Pottery	116
4.10.5.	Other objects	116
4.10.6.	Architectural features	118
4.10.7.	Discussion	118
4.11.	Gezer	119
4.12.	Tel Ta'anach	119
4.13.	Megiddo	119
4.13.1.	Beads and amulets	119
4.13.2.	Stone vessels	120
4.13.3.	Architectural elements	120
4.14.	Beth Shean	120
4.15.	Tel Yoqneam	120
4.16.	Yavne-Yam	120
4.17.	Beth Yerah	121
4.17.1.	Palettes	121
4.17.2.	Architectural features	122
4.18.	Conclusion	122
CHAPTER 5 <i>A corpus of Egyptian imports in the northern Levant</i>		
5.1.	Introduction	128
5.2.	Adonis River	128
5.3.	Byblos	128
5.3.1.	Stone vessels	130
5.3.2.	Stone vessels of uncertain Egyptian origin	136
5.3.3.	Seals	137
5.3.4.	Other objects	137
5.3.5.	Architectural elements	138
5.3.6.	Discussion	139
5.4.	Ugarit (Ras Shamra)	141
5.5.	Ebla (Tell Mardikh)	141

5.6.	Hama	145
5.7.	Alalakh (Tell Atchana)	146
5.8.	Anatolia	146
5.9.	Cyprus	146
5.10.	The Cyclades	147
5.11.	Crete	148
5.12.	Conclusion	150

CHAPTER 6 *Imported ceramics in Egypt and their origins*

6.1.	Introduction	154
6.2.	Previous research on imported ceramics	154
6.3.	Typological categories	155
6.3.1.	Combed Ware (Type 1)	155
6.3.2.	One-handed jugs and jars (Type 2)	158
6.4.	Depictions of foreign pottery	158
6.5.	Contents	160
6.6.	Transport	162
6.7.	Distribution	163
6.8.	Seals, potters marks and other decorative elements	166
6.9.	Provenance in the Levant	167
6.10.	Fabric, ware types and the question of provenance	168
6.10.1.	Combed Ware fabric types	169
6.10.2.	Ware groups	169
6.11.	Esse and Hopke's NAA study	173
6.12.	A new chemical study by PIXE-PIGME	175
6.12.1.	Results	175
6.13.	Other chemical analyses	179
6.14.	Conclusion	179

CHAPTER 7 *The Egyptian-Levantine commodities trade*

7.1.	Introduction	183
7.2.	Commodities sought by Egypt	183
7.2.1.	Lapis lazuli	183
7.2.2.	Copper and turquoise	185
7.2.3.	Silver	188
7.2.4.	Animals	190
7.2.5.	Olive oil	191
7.2.6.	Wine	193
7.2.7.	Coniferous timbers	194
7.2.8.	Fruit-bearing trees and other timbers	196
7.2.9.	Resins and other oils	198
7.2.10.	Slaves and human cargoes	200
7.2.11.	Other products	202

7.3.	Egyptian exports	202
7.3.1.	Raw stones and shells	203
7.3.2.	Gold	203
7.3.3.	Egyptian foodstuffs, oils and other products	204
7.3.4.	Animal products	205
7.4.	Conclusion	206
CHAPTER 8 <i>The Egyptian-Levantine trade in manufactured goods</i>		
8.1.	Introduction	210
8.2.	Stone vessels as Egyptian ‘exports’	210
8.2.1.	Observations on Old Kingdom stone vessel production	210
8.2.2.	Egyptian copies of foreign shapes	215
8.2.3.	Egyptian stone vessels in Canaan and their significance	216
8.2.4.	Egyptian stone vessels at Byblos and their significance	218
8.2.5.	Egyptian stone vessels at Ebla and their significance	222
8.2.6.	Egyptian stone vessels in Crete and their significance	224
8.3	Stone palettes	226
8.3.1.	The stone palette in Egypt	226
8.3.2.	Egyptian and egyptianising stone palettes in Canaan	228
8.3.3.	Palettes and other manufactured goods as exchange items	230
8.4.	The problem of maceheads	232
8.5.	Items of personal adornment	233
8.5.1.	Faience	234
8.5.2.	Beads, amulets and other trinkets	235
8.6.	Textiles, furniture and other organic materials	237
8.7.	Egyptian ceramics and influences on local ceramic production	238
8.8.	Architectural features	240
8.9.	Conclusion	241
CONCLUSION	<i>A revised view of Egyptian relations with the Levant in the Old Kingdom–EB III/IV</i>	245
BIBLIOGRAPHY		257
INDICES		295
APPENDIX I	<i>List of Egyptian objects from Montet’s ‘dépôts de fondation’ at Byblos</i>	I.1
APPENDIX II	<i>A PIXE-PIGME study of Combed Ware jars from Egypt</i> P. Grave and K.N. Sowada	II.1
FIGURES AND PLATES		

LIST OF TABLES AND CHARTS

Table 1	Rulers of the Old Kingdom	3
Table 2	Proposed EB chronological synchronisms between Egypt and Canaan	4
Table 3	Summary of EB II synchronisms with Egypt	29
Table 4	Summary of imported material in Old Kingdom Egypt	86
Table 5	Summary of imported Egyptian material in EB III-IV Canaan	123
Table 6	Summary of in-context <i>aegyptiaca</i> at Byblos	140
Table 7	Summary of imported Egyptian material in the northern Levant	151
Table 8	Distribution patterns of imported pottery (Types 1 and 2)	164
Table 9	Revised hierarchical cluster analysis of Esse and Hopke's NAA study (after Esse and Hopke 1986)	177
Table 10	Results of provenance studies by NAA and PIXE-PIGME for Old Kingdom imported ceramics	178
Table 11	Eigenvalues from PCA of dataset giving raw, % and cumulative % of variance accounted for by each eigenvalue	II.4
Table 12	PIXE-PIGME results for samples and replicates of the Ohio Red Clay Standard	II.8
Chart I	Bivariate plot of the first two PCA components for the samples showing the highly structured character of the dataset	II.6
Chart II	Bivariate plot of the first two components for the elements	II.7

LIST OF FIGURES AND PLATES

Figures

- Figure 1 EB IB sites in Canaan and Egypt
- Figure 2 EB II sites in Canaan and the Sinai
- Figure 3 EB II ceramics
- Figure 4 Egyptian stone vessels in EB II Canaan
- Figure 5 Egyptian stone vessels in EB II Canaan
- Figure 6 Map of Egypt
- Figure 7 Egypt: Combed Ware jars (Type 1) from Giza
- Figure 8 Egypt: Combed Ware jars (Type 1) from Giza
- Figure 9 Egypt: Combed Ware jars (Type 1) from Giza
- Figure 10 Egypt: Combed Ware jars (Type 1) from Giza
- Figure 11 Egypt: Combed Ware jars (Type 1) from Giza
- Figure 12 Egypt: One-handled jars (Type 2) from Giza
(after Reisner and Smith 1955)
- Figure 13 Egypt: One-handled jars (Type 2) from Giza and other sites
- Figure 14 Egypt: Combed Ware jars (Type 1) from Giza and other sites
- Figure 15 Egypt: Imported ceramics and raw materials
- Figure 16 EB III-IV sites in Canaan
- Figure 17 Evidence from the Sinai
- Figure 18 Canaan: Egyptian palettes
- Figure 19 Canaan: Egyptian objects
- Figure 20 Canaan: Egyptian objects
- Figure 21 Canaan: Egyptian stone vessels from Tel Yarmuth
- Figure 22 Canaan: Egyptian stone vessels from Ai (after Amiran 1970a)
- Figure 23 Canaan: Egyptian stone vessels from Ai (after Amiran 1970a)
- Figure 24 Canaan: Egyptian objects
- Figure 25 Northern Levant: Egyptian stone vessels from Byblos
(after Dunand 1939-58) not to scale
- Figure 26 Northern Levant: Egyptian stone vessels from Byblos
(after Dunand 1958) not to scale
- Figure 27 Northern Levant: Egyptian stone vessels from Byblos
(after Dunand 1958) not to scale
- Figure 28 Northern Levant: Egyptian stone vessels from Byblos
(after Dunand 1958) not to scale
- Figure 29 Northern Levant: Egyptian objects from Byblos
(after Dunand 1939-58) not to scale
- Figure 30 Northern Levant: Egyptian and egyptianising objects and
elements from Byblos
- Figure 31 Northern Levant: Egyptian stone vessels from Ebla
(after Scandone Matthiae 1981)
- Figure 32 Northern Levant: Egyptian stone vessels from Ebla
(after Scandone Matthiae 1981)
- Figure 33 Northern Levant: Egyptian objects from Ebla,
Cyprus and Crete

- Figure 34 Egyptian objects from the ‘dépôts de fondation’ at Byblos (after Montet 1928) not to scale
- Figure 35 Egyptian objects from the ‘dépôts de fondation’ at Byblos (after Montet 1928) not to scale
- Figure 36 Representations of foreign pottery shapes in Old Kingdom tombs
- Figure 37 Scene from the tomb of Ptah-hotep (after Junker 1941)
- Figure 38 Abusir Papyrus detail (after Posener-Kriéger and de Cenival 1968)
- Figure 39 Imported animals and jars from the funerary complex of Sahure at Abusir (after Borchardt 1913)
- Figure 40 Scene from the tomb of Ni-ankh-khnum and Khnum-hotep showing local and imported trees (after Moussa and Altenmüller 1977)
- Figure 41 Battle scenes from the tomb of Inti at Deshasha (after Kanawati and McFarlane 1993)
- Figure 42 Siege scene from the tomb of Ka-em-hesit at Saqqara (after McFarlane 2003)
- Figure 43 Asiatics arriving, from the funerary complex of Sahure at Abusir (after Borchardt 1913)
- Figure 44 Egyptianising cups from the Sanctuary at Ai
- Figure 45 Early Dynastic/EB II Egyptian exchange routes in the eastern Mediterranean
- Figure 46 Early Dynastic/EB II Egyptian exchange routes in Canaan
- Figure 47 Old Kingdom/EB III-IV Egyptian exchange routes in the eastern Mediterranean
- Figure 48 Old Kingdom/EB III-IV Egyptian exchange routes in Canaan

Plates

- Plate 1 Egypt: Combed Ware jars (Type 1) from Giza
- Plate 2 Egypt: Combed Ware jars (Type 1) from Giza
- Plate 3 Egypt: Combed Ware jars (Type 1) from Giza
- Plate 4 Egypt: Combed Ware jars (Type 1) from Giza
- Plate 5 Egypt: Combed Ware jars (Type 1) from Giza
- Plate 6 Egypt: Combed Ware jars (Type 1) from Giza
- Plate 7 Egypt: Imported jars (Types 1 and 2) from Giza and other sites
- Plate 8 Egypt: One-handled jars (Type 2) from Giza and other sites
- Plate 9 Egypt: Imported raw materials
- Plate 10 Egypt: Combed Ware jars (Type 1) from Abusir
- Plate 11 Egypt: Combed Ware jars (Type 1) from Abusir
- Plate 12 Egypt: Combed Ware jars (Type 1) from Abusir
- Plate 13 Canaan: Egyptian objects
- Plate 14 Canaan: Egyptian objects
- Plate 15 Canaan: Egyptian objects
- Plate 16 Canaan: Architecture
- Plate 17 Northern Levant: Egyptian objects and elements
- Plate 18 The royal boat of King Khufu
- Plate 19 Foreigners depicted on a relief from the Unas Causeway

ABBREVIATIONS

Books, Journals and Publication Series

<i>AAE</i>	<i>Arabian Archaeology and Epigraphy</i>
<i>AASOR</i>	<i>Annual of the American Schools of Oriental Research</i>
<i>ABSA</i>	<i>Annual of the British School at Athens</i>
<i>ADAJ</i>	<i>Annual of the Department of Antiquities, Jordan</i>
<i>AJA</i>	<i>American Journal of Archaeology</i>
<i>AJSLL</i>	<i>American Journal of Semitic Languages and Literature</i>
<i>ASAE</i>	<i>Annales du Service des Antiquités de l'Égypte</i>
<i>AVDAIK</i>	<i>Archäologische Veröffentlichungen, Deutsches Archäologisches Institut, Abteilung Kairo</i>
<i>BA</i>	<i>Biblical Archaeologist</i>
<i>BAAL</i>	<i>Bulletin d'archéologie et d'architecture libanaises</i>
<i>BASOR</i>	<i>Bulletin of the American Schools of Oriental Research</i>
<i>BACE</i>	<i>Bulletin of the Australian Centre for Egyptology</i>
<i>BCH</i>	<i>Bulletin de correspondance hellénique</i>
<i>BES</i>	<i>Bulletin of the Egyptological Seminar</i>
<i>BERYTUS</i>	<i>Berytus Archaeological Studies</i>
<i>BIFAO</i>	<i>Bulletin de l'Institut français d'archéologie orientale</i>
<i>BJPES</i>	<i>Bulletin of the Jewish Palestine Exploration Society</i>
<i>BBMFA</i>	<i>Bulletin of the Boston Museum of Fine Arts</i>
<i>BMB</i>	<i>Bulletin du Musée de Beyrouth</i>
<i>BSFE</i>	<i>Bulletin de la Société française d'Égyptologie</i>
<i>CCE</i>	<i>Cahiers de la céramique égyptienne</i>
<i>CdÉ</i>	<i>Chronique d'Égypte</i>
<i>CRAI</i>	<i>Comptes rendus des séances de l'Académie des inscriptions et belles-lettres</i>
<i>DE</i>	<i>Discussions in Egyptology</i>
<i>EA</i>	<i>Egyptian Archaeology</i>
<i>EI</i>	<i>Eretz Israel</i>
<i>ESI</i>	<i>Excavations and Surveys in Israel</i>
<i>GM</i>	<i>Göttinger Miszellen</i>
<i>IEJ</i>	<i>Israel Exploration Journal</i>
<i>ILN</i>	<i>Illustrated London News</i>
<i>JARCE</i>	<i>Journal of the American Research Center in Egypt</i>
<i>JAS</i>	<i>Journal of Archaeological Science</i>
<i>JEA</i>	<i>Journal of Egyptian Archaeology</i>
<i>JESHO</i>	<i>Journal of the Economic and Social History of the Orient</i>
<i>JHS</i>	<i>Journal of Hellenic Studies</i>
<i>JJS</i>	<i>Journal of Jewish Studies</i>
<i>JMA</i>	<i>Journal of Mediterranean Archaeology</i>
<i>JNES</i>	<i>Journal of Near Eastern Studies</i>
<i>JPOS</i>	<i>Journal of the Palestine Oriental Society</i>
<i>JSS</i>	<i>Journal of Jewish Studies</i>
<i>JSSEA</i>	<i>Journal of the Society for the Study of Egyptian Antiquities</i>
<i>JWP</i>	<i>Journal of World Prehistory</i>

<i>LAAA</i>	<i>Liverpool Annals of Archaeology and Anthropology</i>
<i>LÄ</i>	H. Otto and W. Helck, <i>Lexikon der Ägyptologie</i> (Wiesbaden, 1972-84)
<i>MÄS</i>	Münchner Ägyptologische Studien
<i>MDAIK</i>	<i>Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo</i>
<i>OBO</i>	Orbis Biblicus et Orientalis, Fribourg, Switzerland
<i>OMRO</i>	<i>Oudheidkundige Mededelingen uit het Rijksmuseum van Oudheden</i>
<i>PAM</i>	<i>Polish Archaeology in the Mediterranean</i>
<i>PEQ</i>	<i>Palestine Exploration Quarterly</i>
<i>PM III²</i>	B. Porter and R. Moss, <i>Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs and Paintings. III. Memphis. Part I. Abû Rawâsh to Abûsir</i> (2nd ed., Oxford, 1974)
<i>QDAP</i>	<i>Quarterly of the Department of Antiquities in Palestine</i>
<i>RB</i>	<i>Revue biblique</i>
<i>RdÉ</i>	<i>Revue d'Égyptologie</i>
<i>RT</i>	<i>Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes</i>
<i>SAK</i>	<i>Studien zur altägyptischen Kultur</i>
<i>SEAP</i>	<i>Studi di Egittologia e d'antichità puniche</i>
<i>SEb</i>	<i>Studi Eblaiti</i> (Mission Archeologica Italiana in Siria)
<i>SHAJ</i>	<i>Studies in the History and Archaeology of Jordan</i>
<i>TA</i>	<i>Tel Aviv – Journal of the Sonia and Marco Nadler Institute of Archaeology of Tel Aviv University</i>
<i>UF</i>	<i>Ugarit-Forschungen</i>
<i>Urk.</i>	<i>Urkunden des ägyptischen Altertums</i> , ed. G. Steindorff (Leipzig/Berlin, 1906-58).
<i>ZÄS</i>	<i>Zeitschrift für ägyptische Sprache und Altertumskunde</i>
<i>ZDPV</i>	<i>Zeitschrift des deutschen Palästina-Vereins</i>

Institutions

ACE	Australian Centre for Egyptology, Sydney
BMFA	Museum of Fine Arts, Boston
BSAE	British School of Archaeology in Egypt, London
CNRS	Centre national de la recherche scientifique, Paris
HM	Herakleion Museum, Crete
HU	Hebrew University, Jerusalem
IAA	Israel Antiquities Authority
IDAM	Israel Department of Antiquities and Museums
IFAO	Institut français d'archéologie orientale, Cairo
KSM	Knossos Stratigraphical Museum, Crete
MMA	Metropolitan Museum of Art, New York City

Other terms

Br.	Breadth
Ch.	Chapter
D.	Diameter
EB/EBA	Early Bronze/Early Bronze Age
ED	Early Dynastic Period
EM	Early Minoan Period
Fig.	Figure
FIP	First Intermediate Period
Ht	Height
Inv.	Inventory Number
L.	Length
LM	Late Minoan Period
MB/MBA	Middle Bronze/Middle Bronze Age
MK	Middle Kingdom
MK	Marquet-Krause (inventory number)
MM	Middle Minoan Period
NAA	Neutron Activation Analysis
No.	Number
Obj.	Object
OK	Old Kingdom
Pl.	Plate
PCA	Principal Components Analysis
Prov.	Provenance
Reg.	Registration
SIP	Second Intermediate Period
Str.	Stratum
Th.	Thickness
W.	Width

PHOTOGRAPHIC AND DESIGN CREDITS

The layout of the text and tables was completed by Armon Hicks and Leonie Donovan. The plates were designed and the layout finalised by Leonie Donovan. Table 9 was drawn by Dr Helen Wilkins. Figs 1-2, 6, 45-8 were prepared by Virginia Buckingham Graphic Design.

Figs. 4, 5a, 7 [5]–[9]; 8 [13]–[14], 9 [19] and [25], 10 [33], [38] detail and [39], 13 [59], 14 [51] and [95], 20 [123] and [129], 21 and 44, drawings and inking by Karin Sowada. Fig. 15 [102], drawing provided courtesy of Dr Dietrich Raue, German Institute, Cairo and inked by Karin Sowada. Fig. 18 [112-4] provided by Dr Tom Schaub. Fig. 19 [124-5] and [130] provided by Dr Pierre de Miroschedji. Fig. 20 [119] redrawn from an original provided by Dr Tom Schaub.

Pls. 1-3, 4 [39] and [42], 5-6, 7 [55], 8 [57] and [59] photographs by Karin Sowada and used by permission of the Museum of Fine Arts, Boston. Pl. 7 [62] C12915_OS Pottery: sealed jar from G 1220A. Photographer George Andrew Reisner, American, 1867-1942, Spring 1906, Harvard University – Boston Museum of Fine Arts Expedition; Pl. 9 [63] New Series B 06927, Hetepheres I anklets and bracelets on restored frame, G 7000X. Photographer Mohammedani Ibrahim, August 11, 1929, Harvard University-Boston Museum of Fine Arts Expedition; Pl. 9 [67] © Pelizaeus Museum, Hildesheim, and used with permission. Pl. 4 [36] photograph courtesy Frank Steinman, University of Leipzig; Pl. 7 [100] © The Louvre, Paris and used with permission; Pls. 10-12 photographs courtesy of Dr Miroslav Barta, © Czech Institute of Egyptology, Prague and used with permission; Pl. 8 [91] © NY Carlsberg Glyptotek, Copenhagen and used with permission; Pl. 7 [85] courtesy of Dr Ann McFarlane © Australian Centre for Egyptology, Sydney; Pl. 13 [109, 111-13, 117] and Pl. 15b photographs provided courtesy of Dr Tom Schaub; Pl. 13 [116] and Pl. 14a taken by Karin Sowada and used by permission of Dr Tom Schaub; Pl. 14b and [124], Pl. 15 [128], [131-2] courtesy of Dr Pierre de Miroschedji; Pl. 14 [121] courtesy of Professor Joe Seger, Cobb Archaeological Institute, Mississippi; Pl. 15a used by permission of Professor Israel Finkelstein, Tel Aviv University; Pl. 14 [148] courtesy of Dr Rafi Greenberg, University of Tel Aviv; Pl. 15 [147] courtesy of the Oriental Institute Archives and used with permission; Pl. 16b © Ashmolean Museum, Oxford and used with permission. Pl. 17(d) photograph by Leonie Donovan and Pls 18 and 19 photographs by Karin Sowada.

FOREWORD

This work was originally completed as the author's doctoral dissertation, awarded by the University of Sydney in 2002. It was then substantially revised while the author was an Honorary Associate in the Department of Ancient History at Macquarie University. Publication was made possible by a grant from the Australian Academy of the Humanities and the financial support of Capitol Research Pty Ltd.

Few such works can be accomplished without the help and support of many individuals. Firstly, the financial support of an Australian Postgraduate Research Award made the initial years of research possible. Grants from the Near Eastern Archaeology Foundation (University of Sydney) and the Australian Institute of Nuclear Science and Engineering (Lucas Heights, Sydney) provided for travel and the PIXE-PIGME analysis respectively. My thanks go to these organisations for their financial support.

A number of museum curators around the world made information and original material available, and to them I offer heartfelt thanks for all the times I appeared on their doorstep or sent interminable e-mails requesting information or samples. Over the years some have become good friends. These people are Baruch Brandl (Israel Antiquities Authority); Dr Rita Freed, Dr Denise Doxy and staff of the Department of Egyptian, Near Eastern and Nubian Art (Museum of Fine Arts, Boston); Dr Chris Chippendale (Museum of Archaeology and Anthropology, Cambridge); Dr Leila Badre (American University in Beirut Museum, Beirut); Mrs Ossi Brandl (Israel Museum, Jerusalem); Genevieve Pierrat (Musée du Louvre, Paris); Mrs Gila Hurvitz (Hebrew University Museum, Jerusalem); Professor David O'Connor (formerly University of Pennsylvania Museum, Philadelphia) and Dr Sy Gittin (Albright School, Jerusalem); Dr Jonathan Tubb, Dr Jeffrey Spencer and Pamela McGrill (British Museum, London); the late Mrs Barbara Adams (formerly Petrie Museum, London); Dr Joe Green (Semitic Museum, Harvard) and Dr Joe Zias (formerly Rockefeller Museum, Jerusalem). In particular, I would acknowledge the permission of the Boston Museum of Fine Arts, the Musée du Louvre, the British Museum, the Ashmolean Museum, the Leipzig University Museum, the Roemer and Pelizaeus Museum Hildesheim, the Hebrew University Museum, the Israel Antiquities Authority and the NY Carlsberg Glyptotek for permission to publish their material.

A number of expedition directors also made published and unpublished material available from their storerooms and archives, and to them I extend my gratitude. These are Dr Pierre de Miroschedji (Tel Yarmuth and Tell Far'ah North – CNRS, Paris); Professor Joe Seger (Lahav Research Project – Cobb Archaeological Institute, Mississippi); Dr Tom Schaub and the late Dr Walt Rast (Bab edh-Dhra/Numeira – Pittsburg); Dr D. Hansen (Mendes – Institute of Fine Arts, NYC); staff of the Department of Antiquities, Kerak Inspectorate (Jordan); Professor Khaled Nashef (Tell Ta'anach – Birzeit University, Palestine); Professor Israel Finkelstein (Megiddo – Tel Aviv University, Tel Aviv); Professor Eliezer Oren (Sinai – Ben Gurion University, Beersheva); staff at the Palestine Exploration Fund (Tell el-Hesi – London); Dr Rafi Greenberg (Beth Yerah – Tel Aviv); Dr Alex Joffe (Megiddo – Pennsylvania); Professor Amihai Mazar and Dr Eliot Braun (Beth Shean – Israel); Dr Ann McFarlane (Saqqara – Sydney) and Dr Francis Pinnock (Ebla – Rome). I am especially indebted to Dr Miroslav Barta of the Czech Institute of Egyptology, Prague, who allowed me to visit south Abusir in November 2002 to examine recently dis-

covered Combed Ware jars, and who also provided additional information about imported ceramics from the site. I am deeply grateful to them all for their assistance and more specifically to those who gave their permission to publish their material in this work. Specific photographic credits are noted elsewhere and I am deeply indebted to these institutions and individuals for permission to publish their pictures.

Other people have assisted in various ways. I am particularly indebted to Dr Peter Grave (University of New England, Australia) for processing the PIXE-PIGME data. His contribution is published in Appendix II. Leonie Donovan (Macquarie University, Sydney) scanned many of the images and created the plates in digital form; without her hard work and advice the book could not have been completed. Virginia Buckingham undertook the task of turning the original maps into an artwork suitable for publication. Dr Jacke Phillips (McDonald Archaeological Research Institute, Cambridge) provided a copy of chapters from her unpublished PhD dissertation on connections between Crete and Egypt. Dr Russell Adams provided me with a copy of his unpublished PhD dissertation on copper production in the Early Bronze Age. I am also indebted to Dr Andrew Bevan and Dr Rachael Sparks for sending me copies of book chapters that were at the time unavailable to me. Dr David Pritchard, Wendy Reade, Dr Helen Wilkins, the late Rob Thornley and Dr Jaimie Lovell are thanked for their assistance with various technical and editorial aspects of this work. Special thanks are due to Armon Hicks and Leonie Donovan for formatting the manuscript for publication.

Over the years, many scholars have offered material, moral and intellectual support. In particular, Dr Pierre de Miroschedji, Professor Joe Seger, Dr Stan Hendrickx and Professor Eliezer Oren offered useful comments and criticisms that have helped shape the present work. In particular, Emeritus Professor Basil Hennessy, Professor Richard Green and Associate Professor Roland Fletcher from the University of Sydney were always available to support grant applications and provide advice. Professor Harry Smith (formerly University College London) offered much wisdom in the early stages of this work and to his encouragement much is owed. To Dr Stephen Bourke go particular thanks for initially ‘war gaming’ the dissertation topic and for reading much of the later material. Without his support this work would not have been completed. As always, all errors are the responsibility of the author.

I am deeply indebted to *Orbis Biblicus et Orientalis* for agreeing to publish this work, in particular Professor Othmar Keel and Professor Christoph Uehlinger for their interest and unfailing support.

And finally, to my family, Armon, Kate and Lily, I owe perhaps the biggest debt, for all the time spent overseas and in front of the computer when there were always more pressing family things to do. I thank them for their patience and forbearance.

ABSTRACT

The question of Egyptian interaction in the eastern Mediterranean during the Old Kingdom has been a neglected area of study. While the inscriptions are well-known and have been much debated, the archaeological record is more ambiguous, particularly for Egypt's role in Canaan. This book examines the archaeological evidence for Egyptian interrelations in the eastern Mediterranean during the Old Kingdom by re-assessing material from older excavations and introducing new evidence from recent work.

The book begins with a survey of the debate over Egypt's role in the Levant during the 3rd to 6th Dynasties. To date, Egyptian inscriptions have largely shaped discussions, with scholars in basic agreement over the primacy of Byblos. However, division has emerged over the role of Egypt in Canaan with the ambiguous textual and archaeological evidence pointing to a series of possible conclusions ranging from overt Egyptian administrative control to no contact at all with the region.

Chapter 2 examines the role of Egypt in the Levant during the fourth and early third millennium BC, to set the Old Kingdom/EB III-IV in archaeological, historical and political context. This study shows that the pattern and networks underpinning Old Kingdom interrelations were established during the EB II. Recent archaeological data from the period helps illuminate the precise nature of the EB commodities trade and Egypt's demand for products from Canaan and the coastal Levant. In Canaan, the Egyptian presence evident in the EB IB strata of southern Canaan disappears during the reign of Hor-Aha. However, the sea-borne 'Byblos run', shipping coniferous timbers in large quantities for elite consumption begins at this time, commencing a tradition that continued for much of the third millennium. The geographical focus of commodity acquisition also shifts north, to the Galilee and central Levant, a change linked to the development of the coastal trade route. The appearance of fortified centres and elites in Canaan presents a different political and economic climate for Egyptian rulers, illustrated by the appearance of stone vessels at a number of sites. These vessels begin a tradition of elite gift exchange in prestige items evident elsewhere in the Levant.

Archaeological evidence for Old Kingdom—EB III/IV interconnections is then presented in three separate chapters. Chapter 3 outlines imported material found in Egypt. The largest class of object is imported Combed Ware ceramic jars, used as containers for various liquid products. Cedar imports are also attested in significant quantities, particularly in the early Old Kingdom. Chapters 4 and 5 cover Canaan and the northern Levant respectively, presenting Egyptian material found at various sites. It will be seen that while the quantity of material is greater in Syria/Lebanon, reflecting the importance of relationships with Egypt, a significant amount of previously undocumented *aegyptiaca* is present in Canaan. These objects are durable manufactured goods. Moreover, at Byblos, many of the objects traditionally used to underpin Egypt's relationship to the city, and the local Ba'alat Gebal cult in particular, are out-of-context, thus reducing the value of this material as evidence for Egyptian foreign relations in the Old Kingdom.

In Chapters 6-8, specific Egyptian imports and exports are examined in more detail. Chapter 6 looks critically at the imported pottery in Egypt. The chronological and geographical distribution of the ceramics is re-examined, showing that only after the 4th Dynasty did imported ceramics filter beyond the royal cemeteries in the north.

Moreover, as a ware, it will be seen that the imports are not homogenous. This is also reflected in NAA data, which shows that some vessels come from southern Canaan in addition to Byblos. New PIXE-PIGME data is also presented, showing that products were also sought from the central Levant. This data reflects the continuation of EB II exchange networks and helps support other archaeological and textual evidence in Canaan pointing to a continued Egyptian relationship with the region during the Old Kingdom.

Chapter 7 explores the debate concerning the nature of individual commodities underpinning Old Kingdom—EB III/IV trading networks, using both archaeological and textual/artistic material. The key import was coniferous timbers and their by-products, but many other commodities were also obtained, such as lapis lazuli, copper, exotic animals, raw stones and human resources. However, despite the assumptions made in the literature about the products traded, wide gaps exist in the archaeological and literary record, which could be filled by more detailed scientific analysis of raw materials and residues. Egypt's exports were probably of a perishable nature, thus leaving no real trace.

Chapter 8 examines Egyptian and egyptianising manufactured goods found in the Levant. Stone vessels found outside Egypt in EB contexts, such as those from Ebla and Byblos, should be regarded as elite gift exchange or trade items. The same explanation can be given for other Egyptian goods. Some of these items may also reflect down-the-line exchange in Egyptian *exotica*. The archaeological context of this material in the Levant is canvassed, showing that such objects and their association with the Egyptian state imbued them with importance to those elites who received them. The adoption of certain Egyptian architectural features shows that some Egyptian concepts and ideas were adopted for local use.

The book concludes with a revised view of Egyptian interrelations in the Old Kingdom. The archaeological evidence, supplemented by textual material, demonstrates that while Egypt's most important relationship was with Byblos, it was an active participant in the geo-political and economic affairs of the whole region during much of the third millennium BC. Moreover it shows that Egyptian interaction in the eastern Mediterranean fits the pattern of state-to-state contact between ruling elites which was underpinned by gift exchange, diplomatic ties and isolated military incursions.

1. STUDIES IN OLD KINGDOM FOREIGN RELATIONS: A SURVEY

1.1. Introduction

Over the last thirty years, an increasing level of scholarly attention has focused on the question of Egypt's foreign relations in the Early Bronze Age. Much new evidence has been uncovered, radically altering our understanding of this period. New sites have provided a wealth of well-stratified material, helping place chronologies on a sounder footing. Fresh archaeological data has also resulted in the re-assessment of discoveries made many years ago.

Most of this research has concentrated on Egyptian interconnections during the mid-late Early Bronze Age IB-Naqada IIIA/C1 and to a lesser extent, the Early Bronze Age II-Early Dynastic Period. Little attention has focused on the archaeological evidence for foreign contacts during the Old Kingdom, equated with the Early Bronze Age III. The effect of this has been twofold. Firstly, our picture of Egypt's foreign relations in the Old Kingdom still relies heavily on the textual record. Secondly, it has resulted in a failure to regard this period in the wider framework of the social, political and environmental changes that shaped relations between the two regions during the fourth and third millennia (Gophna 1995: 277).

The lack of few new large-scale (published) discoveries in Egypt means that on the Egyptological side, the issue has fallen out of scholarly fashion, with little new debate having occurred for some years. Relevant Egyptian inscriptions and archaeological data, largely discovered a century ago, have been thoroughly discussed, with Egyptologists on the one hand adopting a text-based approach, and Levantine archaeologists trawling over the well-known material evidence. All agree that Egypt's relationship with Byblos was pivotal, whereas wide disagreement exists over Egypt's role in Canaan. Moreover, an apparent lack of Egyptian archaeological material in Canaan and corresponding material in Egypt has perpetuated the view that Egypt had little or no contact with Canaan throughout much of the Old Kingdom, apart from a handful of military skirmishes in the 6th Dynasty.

The purpose of this work is to undertake a fresh analysis of Egyptian/Levantine interconnections from the perspective of archaeological data. Recent work at big EB III sites such as Tel Yarmuth, Bab edh-Dhra, Tel Halif (Lahav) and Ebla in Syria has unearthed a considerable amount of new material. The application of new analytical techniques is squeezing revised conclusions from old objects. New data has also been discovered in Egypt, particularly in the Sinai and at Abusir. When viewed alongside the fragmentary literary record and other well-known objects, a view of Egypt's role in the Levant can be developed which does not consider one class of evidence in isolation from another.

1.2. Defining the parameters of this study

Firstly, the term ‘Old Kingdom’ (hereafter OK) is used in its widest chronological sense, embracing the 3rd-6th Dynasties (Table 1). Although little is known about the 3rd Dynasty (Gardiner 1961: 72-6), historically and archaeologically, the period marks the advent of the developed OK state (Kemp 1983: 71-85; Grimal 1992: 62-70). As Gardiner observed, ‘[Djoser’s] importance as founder of the new epoch is marked in the Turin Canon by the exceptional use of red ink’ (1961: 72). The reign of Pepy II marks the end of Manetho’s 6th Dynasty, and thus is a convenient point at which to end our consideration of the evidence.

Secondly, the term ‘Canaan’ has been used to describe the region occupied by modern Israel, Jordan and Palestine (Gophna 1995: 272). In this context, use of the word ‘Canaanite’ does not imply any ethnic relationship to later Canaanite communities (but on this, see de Vaux 1971: 234). Rather, the term is a convenient expression to separate the southern (Israel, Palestine and Jordan) and northern Levant (Syria and Lebanon), thus avoiding use of clumsy expressions such as ‘southern southern Levant’ to describe the region of southern Israel, Palestine and Jordan.

Thirdly, the question of absolute dates is not discussed, with dates following the sequence for the OK published by Shaw and Nicholson (2002: 310), Hendrickx and Bavay (2002) and Hendrickx (1996) for the earlier periods in Egypt. It should be noted that a series of published ¹⁴C dates for the Late Predynastic and Early Dynastic Period (hereafter ED) reveal a 100-year discrepancy against accepted historical dates, with the carbon dates suggesting a slightly earlier chronological framework than traditionally used (Görsdorf et al. 1998). Likewise, a series of published ¹⁴C dates for the OK are also significantly earlier than conventional chronologies (Bonani et al. 2001). This important issue requires further detailed analysis, but is beyond the scope of the present work.

Likewise, a discussion of chronological synchronisms between Egypt and the Levant during the third millennium is worthy of a study in its own right and has therefore not been attempted (but see Kantor 1992; Stager 1992: 40-1).¹ New light will be shed on this topic in coming years, but for the present study, a provisional chronological synchronism has been adopted (Table 2) following Kantor (1992), Stager (1992), Hendrickx (1996), de Miroshedji (2002), and conclusions drawn in the present work. At the dawn of the third millennium, the first appearance of EB II Abydos Ware in the tomb of Djer convincingly synchronises this reign with the beginning of the EB II in Canaan (*contra* Hendrickx and Bavay 2002: 75; see Ch. 2.3.7). Yet the transitions linking the EB II, EB IIIA-B and EB IV between Egypt and Canaan

¹ The Associated Regional Chronologies of the Ancient Near East Project (ARCANE) has been established to resolve this question. See <http://www.arcane.uni-tuebingen.de/>

are still so poorly understood that the tentative nature of the synchronisms in Table 2 must be stressed.

Table 1: Rulers of the Old Kingdom

<i>Ruler</i>	<i>Dates</i>
<i>3rd Dynasty</i>	<i>2686-2613 BC</i>
Sanakht	2686-2667 BC
Djoser (Netjerikhet)	2667-2648 BC
Sekhemkhet	2648-2640 BC
Khaba	2640-2637 BC
Huni	2637-2613 BC
<i>4th Dynasty</i>	<i>2613-2494 BC</i>
Sneferu	2613-2589 BC
Khufu (Cheops)	2589-2566 BC
Djedefre (Redjedef)	2566-2558 BC
Khafre (Chephren)	2558-2532 BC
Menkaure (Mycerinus)	2532-2503 BC
Shepseskaf	2503-2498 BC
<i>5th Dynasty</i>	<i>2494-2345 BC</i>
Userkaf	2494-2487 BC
Sahure	2487-2475 BC
Neferirkare	2475-2455 BC
Shepseskare	2455-2448 BC
Reneferef	2448-2445 BC
Niuserre	2445-2421 BC
Menkauhor	2421-2414 BC
Djedkare-Isesi	2414-2375 BC
Unas	2375-2345 BC
<i>6th Dynasty</i>	<i>2345-2181 BC</i>
Teti	2345-2323 BC
Userkare	2323-2321 BC
Pepy I (Meryre)	2321-2287 BC
Merenre	2287-2278 BC
Pepy II (Neferkare)	2278-2214 BC

However, for the end of the OK, archaeologically and historically there is a marked change in the nature of the evidence in the 6th Dynasty: the Egyptians fortify their presence in western Sinai (Ch. 4.2.1), EB IV pottery appears alongside 6th Dynasty Egyptian ceramics in north Sinai (Ch. 4.2.3), a stone vessel bearing the name of Pepy I appears in Ebla Phase IIB1 (Ch. 5.5), stone vessels with the name of Pepy I appear in Byblos Phase KIV, pre-dating the

late third millennium destruction levels (Ch. 5.3.1), and under Pepy I, Weni undertakes major campaigns against the ꜥ3mw ḥryw-šꜥ (Asiatic Sand-Dwellers) (Redford 1986a: 139). Indeed, the reign of Pepy I marks an important apogee of 6th Dynasty foreign policy after which Egypt undergoes internal decline (see Kanawati 1977; Grimal 1992). Parallel to this is widespread destruction or abandonment of the EB III urban centres and a change in settlement patterns of the southern Levant, heralding the EB IV era. The increasing level of military activity in the late 5th-early 6th Dynasty, as suggested by the texts and tomb scenes, may have been linked to a regional situation which hastened the eventual collapse of the OK and the decline of the big EB III urban centres.² Further research is needed on this question but for this work the beginning of the EB IV/MB I in Canaan is synchronised with the reign of Pepy I.

Table 2: Proposed EB chronological synchronisms between Egypt and Canaan

<i>Egypt</i>	<i>Canaan</i>	<i>Absolute Dates</i>
Naqada IIIC1-early 1st Dynasty (Narmer, Horus Aha)	Late EB IB	c. 3050-3000 BC
Early Dynastic Period (Naqada IIIC1/IIID - 1st and 2nd Dynasty) from reign of Djer to reign of Khasekhemwy (end of 2nd Dynasty)	EB II	c. 3000-2686 BC
3rd Dynasty to end of the 4th Dynasty	EB IIIA	c. 2686-2498 BC
5th and 6th Dynasty to the reign of Pepy I	EB IIIB	c. 2494-2287 BC
Late 6th Dynasty (Merenre to Pepy II) to end of the First Intermediate Period	EB IV/MB I	c. 2287-2055 BC

Within these parameters, this work will attempt to

- define Egypt's relationship with the Levant during the EB II, thus establishing the nature of Egypt's role in the region at the beginning of the EB III;
- identify imported archaeological material in OK Egypt;
- identify Egyptian archaeological material in EB III Canaan and the northern Levant;
- develop a picture of the geographical and chronological scope of Egypt's foreign relations with the eastern Mediterranean during the OK;
- focusing on materials analysis, establish the precise nature of the Egyptian/Levantine commodities trade, both in terms of commodities

² On the EB III-EB IV/MB I transition, see Dever 1980; Richard 1980; Mazar 1992:151-73.

traded and the geographical origins of these products, with special reference to the corpus of imported ceramics in Egypt;

- establish the nature and extent of the trade in manufactured goods, such as stone vessels, the extent of any local egyptianising tendencies and any implications for the character of Egypt's relationships abroad;
- assess this data within the context of existing textual evidence.

The study concludes with a revised view of Egyptian interconnections in the eastern Mediterranean during the OK. The archaeological data, supplemented by textual evidence, will demonstrate that while Egypt's most important state-to-state relationship was with Byblos, it was an active player in the geo-political and economic affairs of Canaan and other parts of the Levant throughout much of the third millennium BC. Indeed, Egypt's connection with Canaan essentially continued the relationship established during the ED-EB II, but with fluctuations in emphasis and policy on the part of the OK state.

1.3. Studies in Old Kingdom foreign relations

1.3.1. The problematic textual record

Studies on OK Egypt's foreign relations over the last century have been characterised by a lack of securely stratified archaeological evidence on one hand, and a fragmentary textual record on the other. The Palermo Stone, a handful of denuded royal monuments, assorted 6th Dynasty biographical texts, illustrations from private tombs, rock inscriptions at the Wadi Maghara and other fragmentary texts comprise the relevant corpus of OK inscriptions (Goedicke 1963a; Smith 1971: 201; for a summary, see Redford 1986a). For the 3rd and 4th Dynasty, sources are particularly sparse (on possible reasons for this, see Redford 1986b: 130-63).

One must assume that such inscriptions and narrative reliefs existed, but have since been destroyed or re-used in later monuments (Gaballa 1976: 21). This has been comprehensively demonstrated at the pyramid of Amenemhat I at Lisht, where blocks from a 4th Dynasty royal monument were found re-used as fill (Goedicke 1971: 74-148; Hawass 1995: 231). The fragments reveal a range of scenes including archers drawing bows, an Asiatic woman carrying a child in a backpack and the upraised hand of a captive (Hölscher 1912; Goedicke 1971: no. 23, 47-49, no. 90, 46-7). These scenes are too out-of-context to be of real value, but they do indicate an extensive corpus of 4th Dynasty reliefs, now lost.

Despite these problems, the texts have dominated discussions of OK foreign relations for the last one hundred years (e.g. Erman 1882; Sethe 1933; Newberry 1938; Gardiner 1961: 88-102; Smith 1965a; Helck 1971: 12-24; Edel 1981; Zibelius 1978; Schulman 1979; Roccati 1982; Redford 1986a and references; Wright 1988; Valbelle 1990; Piacentini 1987; 1990; Eichler 1993).

However, the documentary record, by its patchy nature, poses a range of problems thus hampering attempts to more fully understand the historical events of the era (Gardiner 1961: 54-5). Moreover, owing to problems of preservation, few documents on papyrus have survived (Gardiner 1961: 60; Smith 1971: 148-9). The lack of royal documents and the inherent bias of those that do exist have led to many questions and debates about the historicity of certain events, the identification of toponyms and the recognition of specific words for individual commodities.³

In addition to fulfilling a decorative role, royal inscriptions and accompanying images served to promote state mythology, royal legitimacy and politico-religious propaganda (Adams 1964: 102; Hoffmeier 1992; Baines 1995a: 9-19; Silverman 1995). From the time of Narmer onward, representations of foreigners and the king's victory over them helped demonstrate the divine nature of kingship and became part of the standard iconography of royal power (Petrie 1900: pl. 17.30; Petrie 1901: pl. 3A.B9, pl. 4.B14; Smith 1971: 185; Hawass 1995: 249; Baines 1994; Köhler 2002). These images demonstrate the king's eternal being and deity, his transcendence over time and space, and the everlasting ritual triumph over the forces of chaos (Gaballa 1976: 21; Baines 1995a: 13-4). The king's symbolic victory over Egypt's enemies is further illustrated by the trend of OK rulers to include statues and images of bound foreign captives in their burial complexes (Borchardt 1907: 42, fig. 24; Quibell 1909: 113, pl. 56; Firth and Quibell 1936: pl. 57; Jéquier 1936: 27, pl. 47-8; 1941: 28 n. 2; Lauer and Leclant 1969: 55-62 n.2; 1972: pl. 32B; Leclant 1984: 460 n. 31; Verner 1985; 1994: 148-9).

Given the highly symbolic and ideological nature of such representations, it is questionable whether many can be regarded as evidence for actual military campaigns or other foreign expeditions (Roccati 1982: 56-7; Wright 1988: 156; on the Narmer Palette, see Köhler 2002). For example, Pepy II directly copied reliefs from Sahure's funerary installations, depicting himself as the victorious king trampling his enemies, even copying the names of the Libyan chief's family (Gardiner 1961: 57; Gaballa 1976: 23-4; Schulman 1989: 436; Hawass 1995: 231, 250-1).⁴ As Schulman observed, 'the reiteration of the same event by a series of kings removed in time and space from one another...is a clear illustration of [the]...royal myth, one major aspect of which was that any particularly noteworthy act of one king automatically became part of the royal persona, and every succeeding king felt constrained

³ See, for example, the debate over the meaning of 𓆎-wood, traditionally translated as cedar (Erman 1900; Sethe 1908-9: 11-2; Loret 1916: 33-51; Helck 1971: 25-8; Ward 1991: 13-4; Nibbi 1994: 47; Helck 1994).

⁴ Schulman even doubted the Sahure reliefs as evidence of an actual expedition (1979: 88). A similar observation has been made regarding reliefs and inscriptions from the monuments of Djedkare-Isesi (Grimm 1985: 40).

to repeat it...[Hence] as the record of a specific historical event it [the Pepy II scene] is of dubious, if any value, and because of its very dubiousness, we are virtually compelled to question the historical reliability of all the other scenes of the same king, at least in the same context and the same temple' (1979: 88; 1989: 437).

Hence, OK royal funerary reliefs, rather than necessarily depicting historical events, served the purpose of legitimating and supporting the ideology of kingship (Wright 1988: 156; Baines 1995a: 9-19). Standard genres were established during the reign of Khufu, which always included a segment involving foreigners, thus reiterating the king's supremacy and victory over the forces of chaos (Vachala 1991: 96-7; Hawass 1995: 230-1). Such representations may have supported a political ideology of a greater Egyptian hegemony in the ancient Near East which was not matched by reality, except in south-western Sinai.⁵ It is thus possible that the Unas causeway reliefs of foreigners on ships (Pl. 19) were copied from earlier monuments, possibly those of Sahure (Fig. 43).

Biographies from private tombs are generally regarded as more reliable sources of historical information, although these are also prone to exaggeration, with tomb owners accentuating important aspects of their careers and character (Redford 1992: 55; Baines 1995b: 130-1). In the OK, such texts relating to foreign activity are largely clustered in the 6th Dynasty (*Urk.* I: 98-141), with a frustrating lack of material from earlier periods. The titles of officials also contain information about the administrative arrangements for dealing with foreign affairs (Helck 1954; Fischer 1959; Baer 1960; Kanawati 1977; 1980; Redford 1986a: 133 n. 85 and references; Eichler 1993; Mumford 2006). However, while the study of titles is useful, in the end they can only provide a partial economic history (Smith 1971: 170). Archaeological evidence, especially that which can be scientifically analysed, offers a more secure basis on which to establish trade patterns, the products involved and the scope of exchange mechanisms.

1.3.2. The primacy of the northern Levant

The pre-eminence of Byblos in OK foreign activity is beyond dispute. From early last century the word *kbn*, translated as Byblos, has been known from a handful of OK inscriptions (Sethe 1906; 1908-9; Fischer 1959: 265; Horn 1963: 52; Helck 1971: 36; Wright 1988: 146-8). Foremost among these is the 6th Dynasty Aswan text of Khnum-hotep, who speaks of officials making

⁵ On Egypt's control of south-western Sinai during the OK and notions of 'empire', see Parcak 2004.

trips to Byblos, in all likelihood at the behest of the state (*Urk.* I: 140-1; Montet 1928: 270-1; Newberry 1938; Ward 1963: 27). A term to describe the region, *Ng³w*, also appears in the Pyramid Texts, along with a local god called Khai-tau who was linked with Re and Osiris (Montet 1923; Chéhab 1968: 1; Helck 1971: 22; 1994; Mumford 2006: 57). This deity is also named on the well-known egyptianising cylinder seal from Byblos, where the word *kbn* 'Byblos' also appears, identifying the Egyptian name of that city (Fig. 30a, Pl. 17b) (Goedicke 1963a: 3-4; 1966; 1978). In this respect, Egypt's relations with Byblos, in addition to having a commercial and diplomatic purpose, enjoyed a particular theological rationale (Chéhab 1968: 1; Redford 1992: 43-8; Espinel 2002).

The discovery at Byblos many years ago of significant quantities of Egyptian stone vessels inscribed with the names of many OK rulers supported the primacy of the city, as suggested by the inscriptions (Montet 1928; Dunand 1939; Nelson 1934; Ward 1963; 1964b; Chéhab 1969; Helck 1994; Scandone Matthiae 1994; Sparks 2003; Espinel 2002). Egyptian kings could have sent stone vessels as trade items, payments for other goods, diplomatic gifts or as offerings to the temple of Ba'alat Gebal, which is associated by some scholars with Hathor, also known as 'the Lady of Byblos' in later periods (Dunand 1939: 296-8; Montet 1962: 83; Fischer 1968: 39-40; Jidejian 1968: 16-9; Chéhab 1969: 1; Saghih 1983: 36-7; Redford 1986a: 140-1; Andrassy 1991: 135; Scandone Matthiae 1994; Sparks 2003; Mumford 2006: 54). Sixth Dynasty kings appear to have been particularly active in maintaining Egypt's relationship with Byblos and the Ba'alat Gebal cult centre, which was important during the reigns of Pepy I and Pepy II, with the greatest number of stone vessels from this era found there (*Urk.* I: 140-1; Fischer 1968: 38-40; Ward 1963: 23-4; Chéhab 1969: 9; Andrassy 1991: 134; Scandone Matthiae 1994: 39; Sparks 2003: 48; Espinel 2002).

Egyptian influence at Byblos also resulted in the adoption of elite forms of display with an Egyptian flavour (Goedicke 1963c; 1966; 1978; Marfoe 1987: 32-3). This influence was widely recognised in various architectural elements, suggesting that Egypt's effect on Byblos was more profound than a state-to-state commercial relationship (Frankfort 1926: 83-4; Montet 1928: 272-4; Ward 1963: 24; Saghih 1983: 121; Redford 1992: 37-43; Mumford 2006: 57), encompassing religious practice, the adoption of some Egyptian motifs and beliefs (Montet 1928: 269-70; Helck 1994), and more controversially, the possible existence of an Egyptian temple and a colony (Frankfort 1926: 83; Ward 1963: 24; Scandone Matthiae 1994: 38).

During the OK, this sea route was well-travelled, so much that the sea-going ships plying the coast were generically known as *kbn.t*-ships, or Byblos ships, in the late OK and later (Sethe 1908-9: 7-8, 10; Montet 1928: 272; Faulkner 1940: 1; Montet 1962: 86-7; Redford 1992: 38-40; Marcus 2002: 408). Moreover, this connection was not one-way, with the arrival of Asiatics in Egypt indicated by reliefs on funerary monuments of Sahure (Fig. 43) and

Unas (Pl. 19) at Abusir and Saqqara respectively, although Byblos is not actually mentioned (Borchardt 1910-3: pl. 12-3; Hassan 1955: 138, fig. 2). The events depicted on these reliefs are a source of considerable debate (Bietak 1988), with the arrival of slaves (Borchardt 1913: 26; Helck 1971: 16, 35-6), or the product of other hostile activity (Gundlach 1994: 98), a foreign princess (Montet 1939), Asiatic sailors (Bietak 1988; Schneider 1998: 19), settler families (Andrassy 1991: 134), and trading missions or emissaries variously suggested (Smith 1965a: 150; Gaballa 1976: 24; Ben-Tor 1982: 12; Smith and Giddy 1985: 322-3). Indeed, the phrase or name *Kbn Wnt* from a Giza tomb pointed to the possibility of a foreigner (Byblite?) in the Egyptian court who had achieved a certain level of respectability and status (Fischer 1959: 264-5; Helck 1971: 36; Andrassy 1991: 134; Schneider 1998: 21).⁶

Cedar imports, attested in the archaeological and (more controversially) textual record, provided the prime reason for the connection, with Byblos enjoying an important position as the gateway to Lebanon's rich cedar forests (Montet 1928: 266-9; Helck 1971: 26-8; Meiggs 1984: 49-87; Marfoe 1987; Andrassy 1991: 133). Evidence of this connection in Egypt includes cedar and its by-products, and other luxury goods (Reisner and Smith 1955: 73-6; Hennessy 1967: 84; Chéhab 1968: 2; Stager 1992: 39, 41). Neutron Activation Analysis (NAA) revealed that a number of imported Combed Ware jars from Giza also came from Byblos, indicating trade in the commodity they contained (Hennessy 1967: 84; Esse and Hopke 1986: 333-4). Residue analysis identified 'true resin from the coniferous tree' in one of these jars (Lucas and Harris 1989: 320).

This foreign pottery from Giza and elsewhere provided conclusive evidence that Egyptian activity in the northern Levant was active and pervasive, potentially spreading north to Cilicia in southern Anatolia (Reisner and Smith 1955: 73-6; Kantor 1992: 20-1; Stager 1992: 41). The discovery of Egyptian stone vessels in the Palace complex at Ebla opened the notion of Egyptian relations with the Syrian hinterland (Scandone Matthiae 1979/80; 1981; 1988; Andrassy 1991; Mumford 2006: 54).

The purpose of these royal expeditions appears to have been the same: the acquisition of luxury products (Frankfort 1926: 83; Reisner 1931a: 251; Jidejian 1968: 17; Wright 1988: 147), the exchange of royal gifts to secure influence and respect with foreign elites (Sparks 2003), and in regard to Byblos, included endowment of the Ba'alat Gebal cult centre (Redford 1986a: 140-1; Espinel 2002). The acquisition of manpower may have been another reason for Egyptian missions in the north (Redford 1992: 51-2), but this remains an open question. Royal mercantile parties were organised at the behest of the king as a centrally organised activity, operating at a state-to-state level, led by Egyptian officials acting in the king's name (Reisner 1931a: 251-

⁶ Other foreign names are known in Egypt during the OK. For a summary, see Schneider 1998: 15-7, 25-6.

2; Newberry 1938; Wright 1988: 147; Esse 1989: 88; de Miroschedji 2002: 47). These officials potentially held a wide geographical brief in the later OK at least (*Urk.* I: 140-1; Newberry 1938).

Moreover, the OK network appeared to extend into the Aegean, based on the discovery of stone vessels at Knossos, although in much disturbed contexts (Frankfort 1927: 121; Reisner 1931b; Evans 1935: 984-6). The Aegean evidence is hotly disputed, with Warren regarding a small number of OK imports as ‘in context’ and therefore evidence of Egyptian goods reaching Crete during the OK (albeit indirectly) (Warren 1969; 1991; 1995). Others view the material with more scepticism, preferring to regard most vessels as the product of later tomb robbing, and only one or two pieces as genuinely ‘in context’ Egyptian imports (Pomerance 1971; Schulman 1979: 84-6; Phillips 1992: 179-81; Lilyquist 1996; Bevan 2003; 2004). Any ‘in-context’ *aegyptiaca* was probably the result of down-the-line or relay trade with the Levant via Cyprus (Vercoutter 1954: 46; Ward 1963: 54-5; Bevan 2003). Egyptian objects said to be from Dorak in Anatolia (Mellaart 1959), are viewed with considerable scepticism and not regarded as genuine evidence of Egyptian contact with Anatolia (Schulman 1979: 86-7; Kantor 1992: 21).

Precisely when Egypt’s ‘official’ relationship with Byblos and other northern ports began is not settled. Some scholars believe this contact had a long history, stretching into the fourth millennium BC (Montet 1928: 271; Prag 1986). Others regard it as having begun at the end of the 2nd Dynasty, based on an out-of-context stone vessel bearing the name of Khasekhemwy (Callaway 1978: 54; Saghih 1983: 130-1; Marfoe 1987: 27; de Miroschedji 1998: 29). In fact, the earliest attested stone vessel in a secure context with a royal name dates to the reign of Sneferu or Khufu (Fig. 25 [157]) (Dunand 1958: 929, 931, no. 17538). Combined with Sneferu’s Palermo Stone entry describing 40 ships laden with *š*-wood (*Urk.* IV: 236.12) and the sudden appearance of ‘Byblite’ pottery in early 4th Dynasty tombs, the early 4th Dynasty has gained currency as the period which witnessed the emergence of relations with Egypt at an elite level (Ben-Tor 1982: 12; 1986: 20; 1991: 4; Wright 1988; Wilkinson 1999: 160). As this work will demonstrate, archaeological evidence shows that large-scale contact with Byblos or environs, based on the timber trade, began in the early 1st Dynasty and possibly earlier (Ward 1991: 13; Redford 1992: 38; Stager 1992: 40; Ch. 2).

1.3.3. The position of Canaan

(a) The documentary evidence

The position of Canaan in Egypt’s international relations, except as an object of 6th Dynasty military activity (Brugsch 1881: 118; de Vaux 1971: 235), has been ambiguous. When compared to Byblos, early views of Canaan’s place were doubtless influenced by European perceptions of the region after World War I, as illustrated by Frankfort who stated that ‘Egypt did not come into

contact with any Asiatic power of political or cultural influence' and further that 'Palestine could, in fact, offer nothing to induce the Egyptians to include it in their sphere of interest: we find remains of a poor population of plodding fellahin, probably bullied and periodically robbed by their roaming bedawin [sic] countrymen. Palestine was a desolate promontory...' (1926: 82)⁷

Since then, there has been little consensus over the relationship of Canaan and Egypt during the third millennium BC. The oft-repeated view is that Egyptian contact with Canaan peaked during the EB IB and went into decline thereafter, replaced by closer links with Lebanon and Syria (e.g. de Vaux 1971: 232; Rast 1980; Wright 1988; Porat 1989; Ben-Tor 1991; Ward 1991; Parcak 2004: 51).

Critical in this debate are several pieces of documentary evidence. However, this evidence exists only on the Egyptian side, with no texts known from Canaan during this period (Ben-Tor 1986: 1). The Egyptian evidence includes the siege scenes featuring walled Asiatic towns from the tombs of Inti at Deshasha (Fig. 41) (Petrie 1898: pl. 4; Kanawati and McFarlane 1993: pl. 27) and Ka-em-hesit at Saqqara (Fig. 42) (Quibell and Hayter 1927: 25 and frontispiece; McFarlane 2003: pl. 48). Both illustrations are commonly dated to the 6th Dynasty, but new research now convincingly places these tombs in the late 5th Dynasty.⁸ The biographical inscription of Weni from Abydos, who served under kings Teti, Pepy I and Merenre, also furnishes important details about military campaigns against foreigners called the *ʿ3mw ḥryw-šꜥ* (Asiatic Sand Dwellers) during the 6th Dynasty (de Morgan 1898/9 re-published in *Urk.* I: 120-41), as does the biographical inscription of Pepynakht from the reign of Pepy II (*Urk.* I: 134.13-17).⁹

Some Egyptologists dispute the tomb scenes as illustrations of campaigns in the Levant, preferring to regard them as Egyptian border skirmishes in the northeast (e.g. Frankfort 1926: 81-2 n. 3; Goedicke 1963b; Helck 1971: 19; Lorton 1987). Indeed, it is thought by some that Inti, Ka-em-hesit and Weni all describe the same campaigns under Pepy I (Goedicke 1963b: 73; Piacentini 1987: 14). However, the consensus of opinion, particularly among Levantine specialists, favors Canaan as the likely location of these events (de Vaux 1971:

⁷ In Frankfort's defence, it must be said that by 1926, many discoveries highlighting the developed nature of EB III urban complexes were yet to be made (Redford 1992: 65).

⁸ Kanawati and McFarlane propose a late 5th Dynasty date for Inti's tomb, possibly in the reign of Djedkare-Isesi (1993: 17-9 n. 58), rather than the 6th Dynasty date supported by most scholars (see especially Smith 1965a: 148). A date in the reign of Isesi would support the historicity of an inscription from his Mortuary Temple, describing the king as 'prostrating all the multitudes, overthrowing the foreign land [crenellated oval used here, but no name] (Grimm 1985: pl. 1; Redford 1986a: 137). A re-dating would mean that the military action of Weni was a separate historical event (Kanawati and McFarlane 1993: 24; *contra* Goedicke 1963b: 193). McFarlane likewise dates the tomb of Ka-em-hesit to the 5th Dynasty, specifically to the era of late Niuserre to Djedkare-Isesi (2003: 23).

⁹ The location of the latter's activities is uncertain, with many scholars preferring the Red Sea coast (Redford 1992: 57; Mumford 2006: 55-6).

235-6; Callaway 1972: 306; Schulman 1979: 101-2; Ben-Tor 1981: 450; Andrassy 1991: 130-2; Mazar 1992: 141-2; de Miroschedji 1998: 30; 2002: 47).

In the case of the tomb scenes, the iconography of the besieged, their costume and headdress, suggests that Asiatics are depicted (de Vaux 1971: 226; Ben-Tor 1982: 13). The battlements also strongly recall semi-circular projecting towers from the fortifications of EB Arad (Amiran 1978a: pl. 173-4; Schulman 1979: 101-2; Piacentini 1987: 10-1), Jericho (Kenyon 1981: 97, pl. 229b) and Ai (Callaway 1980: fig. 6).¹⁰ Indeed, during the EB III, fortifications at many sites were enhanced, with the most impressive still extant at Tel Yarmuth (de Miroschedji 1990; Mazar 1992: 118-22; de Miroschedji 1999: 7). Moreover, the accompanying inscription from Inti's tomb, while fragmentary, mentions *Ndj3* or *n Di* (Nedia, Nata'el or *di*) and *nn* (Ain), part of a list of towns or regions likewise attacked (Piacentini 1987: 12-3; Kanawati and McFarlane 1993: 25; Schneider 1998: 20). The identity of Nedia is not known (Wright 1988: 155), but the other certainly belongs to the common prefix Ain/Ein (place of the spring?), known from place names in Canaan (Albright 1934; de Vaux 1971: 235-6).

A battle scene from the Unas causeway may also depict the siege of an Asiatic town (Hassan 1938: pl. 95; Hassan 1955: 139, fig. 2). The extremely fragmentary inscription has been tentatively translated as '[smiting the Sha]sw', generally regarded as designating people living in a desert region northeast of Egypt (Helck 1971: 17; Redford 1986a: 138; Wright 1988: 155). However, owing to the fragmentary nature of the block and its place in a royal tableau, any conclusions about possible military action in Palestine must be approached with caution (Piacentini 1987: 11-2; Wright 1988: 155-6).

Most scholars also now accept that the description of Weni's campaign against the *3mw hryw-š* represents a major campaign in Canaan (Breasted 1926: 144d; de Vaux 1971: 236; Callaway 1972: 306; Rast 1980: 15; Ben-Tor 1981: 450; 1982: 13; Roccati 1982: 189; Mazar 1992: 141-2; Redford 1992: 54-5; de Miroschedji 2002: 47). As with the tomb scenes, Asiatic activity on Egypt's north eastern border or the Sinai has also been suggested (Goedicke 1963b: 187-97; Couroyer 1971; Helck 1971: 19; Gundlach 1994: 119). Other aspects of the Weni text also point to Canaan, including a reference to the army travelling by land and boat to a landform called the 'Gazelle's head' to deal with the enemy (*Urk.* I: 104.12; Edel 1981: 10-1), which is plausibly believed to represent the Carmel Range headland near modern Haifa (Smith 1971: 192; Schulman 1979: 101; Edel 1981: 11; Piacentini 1990: 30-1 and

¹⁰ The settlement, shown with bastions in Inti's tomb, echoes the graphic symbol for a walled/fortified town or protected enclosure known from the ED and later (Redford 1992: pl. 3, fig. 2; Fischer 1959: 261, fig. 23).

references; Vachala 1991: 90).¹¹ Moreover, the destruction of figs and vines, mentioned in the text, may point to horticultural activities of the region (de Vaux 1971: 226; Ben-Tor 1982: 13; Roccati 1982: 189; de Miroschedji 2002: 47).

Weni also speaks of sacking the ꜥ3mw Wnt fortresses or strongholds (*Urk.* I: 103.12). The term *Wnt* occurs infrequently during the ED and the OK, and its location is not known with certainty (Fischer 1959: 261-4; Redford 1986a: 135 n.v; Wright 1988: 154; Godron 1990a: 167-70).¹² Indeed, the location may have changed over time, from a specific place in the 1st to 5th Dynasties to a regional designation in the 6th Dynasty (Fischer 1959: 264; Zibelius 1978: 69). The term in Weni's biography is, however, widely regarded as a probable reference to the walled towns of EB III Canaan, particularly when associated with the other evidence noted above (Fischer 1959: 261-4; Helck 1971: 18; Zibelius 1978: 69; Ben-Tor 1982: 13; Redford 1986a: 126-32; Wright 1988: 158; Piacentini 1990; Redford 1992: 11-2). Weni also speaks of having slain thousands and taking many prisoners (*Urk.* I: 104.1-3). Canaan, with its large fortified towns, seems to be the only nearby neighbour capable of having sufficiently numerous soldiers to mount serious opposition (*Urk.* I: 104.1-3), even if the numbers are an exaggeration.

An alternative view has been proposed by Mumford, who suggests that, based on new archaeological evidence for Egyptian defensive positions and mining activity in the region, Weni's campaign against the ꜥ3mw hryw-šꜥ took place in the northern reaches of the Red Sea and west Sinai coast (2006). Given the lack of settlement data in the region to support the number of foreigners allegedly slain by Weni's armies, it is possible to view his numerical claims as an exaggeration (Mumford 2006: 56-7). This, in addition to Pepynakht's account of the assassination of An-ankhti on the Red Sea coast during the reign of Pepy II, is seen as evidence of increasing Bedouin hostility in the Sinai against Egyptian interests toward the end of the OK/late EB III-EB IV (Mumford 2006).¹³

While this theory seems attractive, the overall setting of the campaigns as described by Weni (noted above) makes a location in Canaan more likely. Yet the reasons for this overt military activity strike at the heart of the debate over Egypt's relationship with the region. Why was it necessary? Possibly the

¹¹ Previous translations of this phrase have described it as the 'Gazelle's nose' or variations thereof, but Edel convincingly demonstrates that earlier versions have ignored the word *tp* (see Edel 1981: 10).

¹² A number of other toponyms occur in Old Kingdom inscriptions but their locations have not been identified (Fischer 1959: 264-5; Grimm 1985; Wright 1988: 152-3).

¹³ ꜥ3mw hryw-šꜥ appears to have been a late OK generic term for the non-Egyptian peoples of Sinai and southern Canaan, although their precise identity is by no means settled: for example, Redford regards the word ꜥ3mw as descriptive of EB III people of Canaan (1992: 32; see also a summary in Mumford 2006). On the identity of the hryw-šꜥ as desert Bedouin, see also Couroyer 1971.

Egyptians exercised a degree of authority that was under threat (Smith 1971: 167; de Vaux 1971: 236; Callaway 1978: 55). This apparent control may have been expressed in titles like ‘Overseer of the Wenets’, attested in the 6th Dynasty tomb of Mereri (Drioton 1943: 487-514; Fischer 1959: 264; Wright 1988: 153). An alternative explanation, that raids were designed to secure material goods (Smith 1971: 167; Ben-Tor 1982: 14; Marfoe 1987: 267), is difficult to sustain as the sole reason, because none of the evidence mentions the seizure of property *per se* (Wright 1988: 159 n. 21). The capture of prisoners – male, female and children – does, however, suggest the forcible acquisition of manpower; in Redford’s view, the raids were occasioned by local belligerence or a failure to supply enforced gifts or benevolences (1986a: 140-1; 1992: 53-5). A more likely explanation is that this and other evidence of military action in Canaan represent the Egyptian response to local uprisings which threatened Egyptian access to resources (Parcak 2004: 46). Furthermore, raids and revolts against Egyptian interests and/or against territory along its borders required more drastic military action to suppress or punish (de Vaux 1971: 236; Rast 1980: 15; Mazar 1992: 142).

The scale of the threat to Egyptian interests posed by the *ʿ3mw ḥryw-šꜥ* is illustrated by the fact that Weni was compelled to undertake no less than five expeditions to their territory with a large military force (Redford 1992: 55). Such was the believed impact of this campaigning that Egyptian military activity in the later OK is still regarded by some scholars as a whole or partial explanation for the collapse of EB III urban society (de Vaux 1971: 86-7; Callaway 1972: 306-7; Mazar 1992: 141-3; Andrassy 1991: 129-30; Redford 1992: 64). Conversely, pressures from Asiatic populations to the northeast eventually overwhelmed Egypt’s Delta region during the FIP, so this perceived threat to Egypt may have been well-founded (see Lichtheim 1973: 152; Redford 1992: 62-3).

A range of titles certainly indicates that Egypt had a developed administrative structure to deal its interests in *Wnt*, *ḥ3st*, *Štt*, the ‘Way of Horus’ and other localities (Fischer 1959: 262-6). These officials included caravan leaders, scribes, desert guides, administrators, those responsible for patrolling frontiers and overseers (Fischer 1959: 262-6; Helck 1971: 17; Givon 1983; Andrassy 1991: 130-1; Fischer 1991). That even peaceful expeditions were accompanied by a military detachment is illustrated by Kaaper’s title ‘scribe of the king’s army in Wenet ... [and] in the Turquoise Terraces [Wadi Maghara]’ and also by the soldiers who accompanied Harkhuf (*Urk.* I: 128; Fischer 1959: 264-5; Barta 2001: 179-80). The term *ḥ3st* ‘mountain country’ evidently also referred to the region of Canaan and the Sinai, as it had done in Early Dynastic times (see Godron 1990a: 155-66; Andrassy 1991: 135). The term appears in Sinai inscriptions of the OK (Givon 1983) and in the well-known Byblos cylinder seal (Goedicke 1963a: 3). In the early 5th Dynasty Abusir tomb of Kaaper, one of his titles is ‘scribe of the king’s army ... in the western and eastern foreign lands [*ḥ3st*]’ (Barta

2001: 175-6), so evidently the term could apply to regions beyond Egypt's borders to the west in addition to the east. The geographical terms Serer, Tapa and Ida, known from the titles of Kaaper, may have been Egyptian fortresses along the Sinai coast road or frontier posts in the eastern or western Delta (Barta 2001: 180). Pepynakht's activities also occur against the *ʿ3mw* in *h3st* (*Urk.* I: 134), the location of which has been variously described as bordering on the Gulf of Suez or the Red Sea (Mumford 2006: 57; for a summary of this debate, see Redford 1986a: 127-32). Likewise, the term *Sṯt* may have embraced both the Sinai and Canaan (Helck 1971: 14-6; Giv'eon 1977).

The one aspect of Egypt's activities to its northeast that is not disputed is Egyptian interest in the mineral resources of the southwest Sinai. This area around Wadi Maghara, known as *ḥtyw mfk3t* or the 'the turquoise terrace', was the destination of royal mining activities for turquoise and copper throughout much of the OK (Gardiner et al. 1952-5; Wilkinson 1999: 166; Mumford and Parcak 2003; Mumford 2006). Royal rock inscriptions and archaeological remains attest to Egyptian hegemony over the region from the 3rd Dynasty onwards, which was focused on control of its valuable natural resources (Parcak 2004).

(b) The archaeological debate

Aside from the extremely fragmentary nature of the documents, a large part of the problem in clarifying the nature of Egyptian connections with Canaan has been the lack of archaeological evidence relative to Byblos. However, discovery of Egyptian stone vessels and objects in the EB IIIB Ai temple by Marquet-Krause appeared to provide evidence to fill the archaeological gap (Figs 22-4) (Marquet-Krause 1949: 19, pl. 75; Hennessy 1967: 69-84).

This, combined with egyptianising features at other sites, pointed to the possibility of cultural and political relations with Canaan beginning in the 3rd Dynasty (Albright 1949: 74-5; Callaway 1972: 306-7). Foremost with this view was Callaway who, based on the evidence at Ai, proposed a significant degree of Egyptian control at Ai and elsewhere during the EB IIIA, particularly under Djoser (1972: 306). Others disagreed with this interpretation (Lapp 1970: 121; Rast 1980: 11). Hennessy proposed an alternative view, believing that Egyptian activity in Canaan tapered off toward the end of the 5th Dynasty, but continued to be strong with Byblos until the end of the OK (Hennessy 1967: 88).

The primacy of the Ai material for OK relations with Canaan was assumed until the corpus was comprehensively re-dated to the 1st Dynasty by Amiran (1970a). Rather, she regarded it as old equipment from the EB II acropolis temple, thus undermining arguments for OK connections based upon it (1970a: 179).

Almost as a direct result of Amiran's work, debate has since divided sharply over the position of Canaan and the precise nature of its relationship with Egypt. One school of thought, while acknowledging the lack of

archaeological evidence, contends that Egyptian contact with EB III Canaan was low-level but did not cease completely as the Egyptian texts illustrate. Initially regarded as purely commercial contact (de Miroschedji 1976: 223; Rast 1980: 12; Andrassy 1991; Stager 1992: 41), some scholars now prefer viewing Egypt's relationship as more multi-faceted, involving diplomatic, commercial and military expeditions (de Miroschedji 1998: 20, 28-9; 2002). Others see the textual evidence as pointing to nothing more than 'expeditionary activities' in Syria-Palestine and intensive relations with Byblos (Kemp 1983: 137-9; Redford 1986a: 133). These expeditionary activities may have had a military flavour, involving the extraction of 'enforced benevolences' or gifts, or been purely commercial ventures, but their purpose was the same: the acquisition of valuable products or manpower (Redford 1986a: 140-1; Wright 1988: 141-61). NAA sampling of Combed Ware in Egypt indicated that some jars came from southern Canaan, thus attesting to commodities traded between the regions (Esse and Hopke 1986: 337).

The second school of thought focuses on archaeological evidence, contending that Egypt had little or no contact with Canaan during the EB III. Levantine specialists point to the absence of Egyptian artefacts in Canaan as showing that Egypt's interests were completely focused on Byblos (Ben-Tor 1981; 1982; 1986; 1991; 1992: 120; Wright 1988: 157; Ward 1991: 18-9; Ahlstrom 1993: 131; Parcak 2004: 51). NAA results cited above have been dismissed as unsupported by other evidence (Ben-Tor 1991: 5). Sporadic military campaigns in southern Canaan, attested by Egyptian inscriptions, were the sum of Egyptian interest in the region (Anati 1963: 356; Ward 1963: 25-6; 1991: 5; Schulman 1979: 101). Over the years, this view has found increasing support (de Cree 1991; Mazar 1992: 136; Smyth 1998: 8; Wilkinson 1999: 160).¹⁴

Plainly, the frustrating lack of archaeological evidence has stymied any attempt to characterise the nature of Egypt's relationship with Canaan, leading to suggestions that Egypt ignored her closest neighbour altogether for nearly 300 years in favour of relations with Byblos.

1.4. Research method, problems and priorities

1.4.1. Research method

The correct identification of foreign material in Egypt and *aegyptiaca* beyond Egypt's borders is crucial for debate about trade connections, chronological

¹⁴ Ahlstrom, while accepting the absence of archaeological evidence, does agree that the Egyptian literary record supports the notion of Egyptian incursions into southern Canaan during the 6th Dynasty.

synchronisms, cultural interaction and even political influence (Bryan 1996; Lilyquist 1996: 135-6; 1998; Barbieri et al. 2002a: 415).

In this study, the writer focused on identifying Egyptian objects and raw materials found in the Levant, and imported objects and raw materials found in Egypt. Art historical data from Egypt such as statues of bound captives were not included in the corpus as these represent state ideology (Parcak 2004) rather than evidence of economic history. The eastern Mediterranean was separated into three regions: Egypt, the southern Levant (Sinai, Israel, Palestine and Jordan) and the northern Levant (Lebanon, Syria, Turkey and for simplicity, Cyprus and the Aegean). Within each region, sites with relevant third millennium phases were identified. For each site in Egypt, all available published data was examined to identify possible foreign imports of ceramics, objects or raw materials. For timbers, only those which had been scientifically analysed were included, thus any opinions based on a visual assessment with the naked eye were excluded as unreliable. The writer contacted many archaeological missions seeking clarification of the published reports, and requested information about any unpublished data. In the case of several unpublished corpora, the original field notes and recording sheets were examined, with the permission of the project director. Wherever possible, pieces were personally inspected in the field or in museums. With pottery, where possible clay fabrics were examined on a break with a 10x hand lens to identify the clay as Egyptian or non-Egyptian.

For the Levant, the same method was used but on a larger scale. Publications were scoured for any likely looking objects, raw materials or pottery that might be imported from Egypt. If the publications lacked detail, where possible the writer contacted the author(s) seeking further information. Many sherd collections from different sites in the southern Levant were examined in the field, in museums and various institutions in Europe, Lebanon, Israel, Palestine, Jordan and the United States to seek previously unidentified Egyptian ceramics. Not one Egyptian sherd was found in an EB III or EB IV deposit. Object collections, data bases, field notes and field catalogues were also examined to isolate any previously unidentified Egyptian objects or objects made from an Egyptian raw material. Wherever possible, objects were personally examined, photographs were seen, or scientific testing was obtained with the co-operation of the project director or museum curator, particularly in the case of questionable raw materials such as non-local stone types and possible imported ceramics.

A data base of these finds was constructed and further refined through detailed research into the archaeological context. On the basis that only provenanced finds could offer any information of secure value, items lacking an archaeological context were discarded from the corpus. These included surface finds and pieces from the market, notwithstanding the fact that they may be well-known or widely published. The exception was material from the North Sinai, which was found in the context of a survey with related EB IV

ceramics, and several objects from Egypt made of imported raw materials known to date from the OK stylistically but without a findspot. Contexts were examined on a case-by-case basis, as objects may have been found in deposits significantly later than their date of manufacture, and hence may or may not be evidence of Egyptian contact at that time (see Ch. 8). Objects found ‘out-of-context’, that is, EB objects found in MB or LB contexts, were also discarded on the grounds that precisely when the object arrived at the site could not be determined with certainty. This principle had particular implications for the discussion of the large corpus of OK stone vessels from Byblos, many of which were found in later levels (see Chs 5 and 8).

Recognising the possibility of the ‘heirloom factor’ for many artefact classes, especially exotic manufactured goods (e.g. Egyptian stone vessels - see Sparks 2003), the date of each object identified as Egyptian in the Levant and imported into Egypt was assessed in its own right against known types from secure archaeological contexts. The heirloom factor has important implications for debates about chronology and chronological synchronisms between Egypt and the Near East (on this, see Sparks 2003).

The transmission of ideas in the form of egyptianising artistic elements and metrology are also identified and discussed, with the same attention to archaeological context.

In this study, each item meeting the above criteria is listed catalogue-style with a description and discussion of the piece, including parallels, an assessment of the date of the object and archaeological context. Certain well-known unprovenanced pieces are also examined but not included in the corpus. The data is summarised at the end of each catalogue chapter (Chs 3-5) and discussed in Chs 6-8.

1.4.2. Understanding the Egyptian archaeological repertoire

In the Levant, the multi-disciplinary nature of field expeditions means that Egyptian specialists are now included in research teams to assist with interpretation of the data.¹⁵ However, this cross-fertilisation of expertise across geographical boundaries is a relatively recent phenomenon.

On the Egyptian side, the problem of inadequate and potentially outdated OK typologies affects material culture studies of the period. For example, the last major study on OK stone vessels was Reisner’s (1931a), supplemented by the recent work of Barbara Aston (1994). Brunton’s bead corpus (1928) is still the only major study on OK beads and amulets. The definitive publication on OK ceramic typology and fabrics remains to be written (but see Brunton et al. 1927; Reisner 1931a; Bourriau 1981; Ballet 1987; Seidlmayer 1990; Ginter et al. 1998; Op de Beeck 2000). This is partially due to the concentration of

¹⁵ For example, see the contribution of Egyptologist Edwin van den Brink to the work at Nahal Tillah (Levy et al. 1997).

research on tombs and temples, a focus that has dominated Egyptology over the last century, and the relative lack of attention paid to stratified settlements and more mundane archaeological remains (Kemp 1977; Bietak 1979). Published material from stratified town sites excavated many years ago is usually wanting in detail (Kemp 1977: 186). Even so, a significant amount of excavated OK settlement material remains to be published. Hopefully, publication of this data will help reduce the reliance on cemetery material excavated many years ago, placing ceramic and object sequences on a sounder stratigraphic footing.

1.4.3. Identifying objects as Egyptian

Scholars have grappled with what is meant by 'Egyptian' and 'egyptianising' when examining Bronze Age objects with Egyptian characteristics (Kantor 1956; Ben-Tor 1994; Warren 1991; Phillips 1991b; Bryan 1996; Lilyquist 1996; 1998). Research has focused mainly on the second and first millennia BC, eras that witnessed the wide diffusion of Egyptian artefacts, iconography and technologies around the eastern Mediterranean (and vice versa), the consequence of intensive international trading networks and Egyptian domination of Canaan in the Late Bronze Age.

In this context the question of what constitutes an 'Egyptian', or 'egyptianising' object is a complex matter. Often the identification of Egyptian objects found outside Egypt has relied on judgments by scholars who are not wholly familiar with Egyptian material, or on assessments of what constitutes an 'Egyptian style' (see, for example, Lilyquist 1996: 134-5). While this issue has been discussed in relation to EM Crete (Warren 1969; Pomerance 1971; Schulman 1979: 84-6; Warren 1991; Phillips 1991b; Bevan 2003; Ch. 5) and certain objects and motifs from Byblos (Goedicke 1966; 1978; Helck 1994; Scandone Matthiae 1994: 41), little work has occurred on material from the rest of the eastern Mediterranean in the third millennium BC.

Whether the presence of Egyptian objects indicates a direct link with Egypt is matter of debate for some regions of the eastern Mediterranean (Ben-Tor 1986: 2). Moreover, such objects may have not arrived necessarily as a result of trade (Ben-Tor 1986: 3). Hence, where independent textual or artistic material exists to support the awareness of one region with another, this provides a firmer footing for suggesting direct links on the basis of archaeological evidence (Ben-Tor 1982: 14). However, the absence of texts should not be taken to imply ignorance; third millennium seafarers and caravaneers were evidently capable of far-reaching journeys for which no trace may now exist (Prag 1986).

Recognising the potential for erroneous conclusions arising from the inaccurate identification of *aegyptiaca*, Reisner proposed two principles. These were firstly 'in using Egyptian objects to date deposits in foreign lands, it is necessary to know the whole range of time during which the object occurs

in Egypt, and the variations in form (sub-types) which the type assumes in the course of its range in time...'. Secondly, he stated that 'an Egyptian object found abroad must be identical in form, material and technique, with a type (or sub-type) of known range in Egypt...The size may vary, but in general, as the identity arises out of manufacture by the same shops of craftsmen, the size of the foreign-found object will be within the range of sizes known in Egypt' (1931b: 200-1). Lilyquist revised these criteria by adding 'quality', inscriptions and context (1996: 136; 1998: 26).¹⁶

While this may seem like a comprehensive checklist, from the perspective of the archaeologist, each poses its own set of problems. Firstly, the question of form is critical, but characterising the OK in this fashion is difficult for certain object classes. Many typologies, such as stone vessels, beads and amulets, are based on only one or two sites and are now relatively old and in need of revision (e.g. Brunton 1928; Reisner 1931a: 130-229; Reisner and Smith 1955: 60-89).

The second important criterion is raw materials and its origin (Ben-Tor 1986: 2). Whereas petrography on ceramic sherds can settle these questions with some precision (see Porat 1989 and more controversially Porat and Goren 2002), analysis is more complex with stones, metals, timber and faience. In particular, intact objects pose problems for scientific techniques that rely on thin-sections and other destructive forms of research (e.g. Aston 1994: 2-3). Furthermore, loose descriptions of raw materials in numerous publications and the lack of technical knowledge of many archaeologists means that often materials are incorrectly identified. For instance, the erroneous labelling of travertine as 'calcite' or more commonly 'alabaster' suggests an Egyptian origin for objects more likely made out of local gypsum (Harrell 1990; Aston 1994: 42-51; Lilyquist 1996: 137-8; Sparks 1996: 51-3, for an example, see Ch. 4.4.5). Identifying the source of raw materials, such as the location of ancient quarries, forests or mines, is a question that specialists have only recently begun to investigate from a more scientific perspective (Warren 1969: 124-41; Meiggs 1984: 11-73; Grosser et al. 1992; Aston 1994: 11-73; Western and McLeod 1995; Lilyquist 1996: 136-43; Ogden 2000; Aston et al. 2000; Barbieri et al. 2002a and b). Provenance studies and the services of relevant specialists, when available, offer a comprehensive basis against which to test the possible Egyptian origins of raw materials and vice versa.

The third issue is the use of Egyptian technology, which cannot be considered in isolation from any of the above criteria (Lilyquist 1996: 136).¹⁷

¹⁶ Lilyquist's categories were developed for carved ivories of the second millennium BC, and are not totally applicable to a discussion of the EBA. However, they represent a constructive starting point in any consideration of egyptianising material and questions of Egyptian cultural influence (Lilyquist 1996 and 1998).

¹⁷ The nature of many OK technologies, such as metalworking, still requires further detailed scientific research (Weinstein 1974).

For example, when comparing Egyptian stone vessel production to other parts of the Levant, Canaan appears to have had no high quality, local hard stone industry in the third millennium BC (Sparks 1996: 56). Hence Egyptian imports are easily identified on the basis of shape, material and method of manufacture. However, for regions with local hard stone working industries, such as Crete and Mesopotamia, separating the Egyptian import from local products is more difficult (Reisner 1931b; Warren 1969; Lilyquist 1996; Phillips 1991b). Likewise, defining the Egyptian influence on local production in the apparent absence of any in-context Egyptian prototypes is also problematic when trying to identify possible international connections (Bevan 2003). As the detailed study of Cretan stone vessels has shown, even experts can disagree on what does or does not constitute an Egyptian import (compare Warren 1969; 1991 with Lilyquist 1996: 146-8, 159-61). The same issue exists with faience, as several production centres are thought to have existed in Egypt and the ancient Near East (Foster 1979: 56-9).

Like technology, other categories of quality, inscription and context are also challenging when used in isolation. 'Quality', defined for stone vessels 'as proportion, surface treatment, integrity of form, crispness of detail and stone selection' (Lilyquist 1996: 136) is a judgment with no scientific basis other than the professional opinion of individual scholars. Inscriptions can be of value in conjunction with other criteria, but again caution must be exercised. For example, 'it is not inconceivable that one [stone cylinder jar] inscribed for Nefer-ka-re from Mirgissa names a Dynasty 17 rather than a Dynasty 6 Egyptian king' (Lilyquist 1996: 143).

By extension, the question of what then constitutes a specifically 'egyptianising' form becomes even more awkward. Similar objects from separate geographical regions need not be the result of cultural contact or influence, although that is certainly possible (Reisner 1931b). Again, this question must be considered on a case-by-case basis, taking into account the distance and transmission route, the availability of raw materials, any relevant textual data and local technologies.

The foremost EBA research on these issues are ceramic studies from late fourth-early third millennium sites in Canaan (Porat 1989; Brandl 1989: 376-9), stone vessel studies from EM Crete noted above, and work conducted on some objects from Byblos (Goedicke 1966; 1978; Helck 1994). On EB IB ceramics from Canaan, petrography has identified imported vessels made from Egyptian Nile silts and marls. A class of locally made vessels of local clays in Egyptian shapes is also known, found alongside imported wares, using Egyptian production and clay preparation techniques. These are often classified as 'egyptianising' or 'Egyptian-styled' (e.g. Porat 1989: 61-3; Porat 1992: 345; Brandl 1992: 441-2; Kansa and Levy 2002), defined as 'locally produced vessels, but of distinctively Egyptian (and by corollary, decidedly non-local) morphology' (Braun 2004b: 508). This distinctive ceramic class is used by scholars to indicate the presence of Egyptians living in EB IB

southern Canaan, having pottery made in local clays to suit Egyptian tastes and uses (Porat 1992). De Miroschedji considers that this material should be regarded as ‘Egyptian’: rather than copies, ‘it is pottery made by Egyptians for Egyptians’ (de Miroschedji pers. comm. 2002; see also de Miroschedji 2001a).

For other finds, the issue is more complex. Identifying an object as having been inspired by Egypt or an imitation of an Egyptian object is often sufficient for it to be deemed egyptianising by many scholars (e.g. de Vaux 1971: 232; Dever 1973: 50; Ben-Tor 1975: 28; Jacobs 1996). However, it is always possible that a specific shape or object type, thought to have an Egyptian source, actually had a wider geographical range and origin (Woolley 1955: 272; Hennessy 1967: 33). As Reisner noted, ‘primitive peoples in the same state of culture having similar needs and similar materials are apt to produce objects and decorations of a similar appearance’ (1931b: 206). In any case, the notion of ‘egyptianising’ suggests a never-ending core-periphery relationship that always saw ‘quality’ artefacts produced by the culture that had achieved high levels of craft sophistication, *vis.* Egypt, which others sought to acquire or imitate (Lilyquist 1996: 136). Such definitions call for prudence.

Although for the third millennium these concepts are relatively undeveloped, for the second millennium BC Bryan attempts to further purify distinctions of Egyptian influence by suggesting that local copies of ivories should be defined as ‘Egyptian style’, whereas ‘egyptianising’ is the ‘combin[ation] of Egyptian motifs and techniques with local or other foreign influences...[to use] Egyptian symbolism for the local elites’ (1996: 60).

As to whether these fine parameters can be applied to the EB III is doubtful, since Egypt’s artistic, cultural and political influence was less pervasive than in the Late Bronze Age. A simpler definition is therefore more appropriate on the current state of research. In this work, an egyptianising object or motif is defined as a local copy in a local or imported material combining any one (or all) of Egyptian shape, function, technology or inscription (Reisner 1931b: 206-8). Context may also be significant if the object is deposited in a ritual, elite or funerary deposit (Amiran 1970a).

1.4.4. The need for more micro-archaeology

Aldred stated that ‘no accurate analyses of many ancient materials...have been recorded. Without fuller and more accurate data, it is idle to speculate on the nature of ancient technical processes, the trade routes by which they were disseminated and the cultural contacts that they show’ (1978: 45).

While this statement does not account for the work of Lucas, there is no question that more scientific data is required (Ward 1991: 18; Knapp 1991; Lilyquist 1998: 29). Various forms of scientific analysis on archaeological materials can identify material type, provenance, technology and residues more precisely than lengthy and circular philological debates (Knapp 1991; Gale and Stos-Gale 1981: 104). New technologies, combined with older

methods of scientific analysis, offer many new fields of research. NAA and petrography have been used to great effect as a means of identifying clay and stone sources (e.g. Kaplan and Harbottle 1982; Esse and Hopke 1986; Porat 1989; Aston 1994; Greenberg and Porat 1996; controversially, Porat and Goren 2002 and references). Other forms of elemental research, such as x-ray diffraction, microscopy and isotope analysis on stones, timbers, beads and metals offer a tighter degree of identification than simple visual examination, which has characterised the study of many objects thus far (e.g. Broeder and Skinner 1992: 135; Western and McLeod 1995: 77-8; Hauptmann et al. 1999; Barbieri et al. 2002a and b). Residue and archaeobotanical analyses mean that minute traces of substances or plant remains can be detected in burials, soils and containers (Serpico and White 1996; Murray et al. 2000: 579-80). Work of this type is already providing much needed new data on the Late Predynastic and ED commodities trade (Serpico and White 1996; McGovern et al. 1997; Hartung 2002). Archaeological material from the OK offers further opportunities to extend this work into the EB III/IV.

To examine the inscriptions alone is inadequate, given the ‘superior usefulness of archaeological evidence for characterising societies’ (Smith and Giddy 1985: 330). Even so, archaeological evidence is not without its problems, such as potentially poor documentation and the ‘uneven transmission of remains’ (Gates 1988: 63-4). The importance of dealing with all forms of evidence, recognising the strengths and limitations of each to construct a more complete picture, must be emphasised (Adams 1964: 102; Smith and Giddy 1985: 330; Gates 1988: 64; see also Helck 1971: 12-37). The need for a large number of new radiocarbon dates for the OK is also pressing, to resolve the discrepancies between existing historical dates and recently published ¹⁴C results (see Ch. 1.2).

Within the scope of this study, it has not been possible to undertake fresh analytical work on every possible commodity traded during the OK. Investigations of this nature are more properly the subject of separate, specialist studies. However, recent work of this kind has begun to generate a fuller picture of Egypt’s commodity trade during the EB III/IV (Ch. 7). In the present work, PIXE-PIGME research into the origin of clays from Combed Ware jars allows new insights into their origins, and hence the products they contained (Ch. 6). The results offer an insight into the new information that can be gleaned from this approach, even using material excavated many years ago.

1.5. Conclusion

While considerable discussion over the last few years has focused on Egypt’s relations with the EB IB Levant, debate has stalled over the EB III, and to a lesser extent the EB II. The lack of any new documentary discoveries in recent years means that the well-known textual and artistic evidence has been

thoroughly studied over the last century. The conventional dominance of inscriptions over material remains also means that the archaeological evidence has been neglected. Even so, the textual record is fragmentary and, in relation to royal inscriptions, can be an unreliable historical source.

Despite these drawbacks, the position of Byblos as the focus of OK trade and diplomatic efforts is beyond dispute on archaeological and textual grounds. However, debate surrounds the precise characterisation of this relationship and when it began. The extent of contact with the Syrian hinterland and the Aegean is also under scrutiny. For Canaan, the situation is also unclear. Well-known late 5th and 6th Dynasty texts and illustrations point to a growing level of military interest in the region but the apparent lack of any corresponding archaeological evidence in either Egypt or Canaan means that the inscriptions provide only part of the picture. As a result, the notion that Egyptian contact with Canaan went into slow decline during the EB II-IV is a view that has gained increasing currency. Indeed, in some quarters, Egyptian contact with Canaan during the EB III is viewed as non-existent. However in the Sinai, new discoveries have sharpened our understanding of its geopolitical role.

Recent archaeological discoveries, the re-examination of old datasets and the application of micro-scientific techniques of elemental and microscopic analysis adds significant information to our understanding of trade routes, the products obtained and the nature of exchange mechanisms. This more comprehensive archaeological picture, when set beside the known documentary evidence, places the texts on a sounder footing and exposes the inadequacy of relying on texts alone. Moreover, examining the OK-EB III/IV in context with the preceding periods ensures that the continuity of regional interrelations is recognised. It will be seen that while Byblos was the primary focus of Egyptian activity, Egypt's direct and indirect relationships with foreign elites covered a wider geographical area. Moreover, in Egypt there is no evidence that this was a privately run enterprise.

In his classic work, Renfrew (1975) identified ten ancient trade or exchange models, processes which could also include information exchange as a stimulus for cultural, social and political change. He suggested that the development from 'direct access' to 'port of trade' acquisition of products and resources could be 'linear and evolutionary' (1975: 43). Yet as we will see from the chapters that follow, in the case of OK Egypt, both literary and archaeological evidence indicates that a number of these methods operated simultaneously and were not mutually exclusive. Moreover, Egypt's relations with its neighbours involved more than the acquisition of products for elite consumption: its engagement had commercial, political, military and possibly also propagandistic dimensions linked to the politico-religious dynamic of Egyptian kingship.

2. PATTERNS OF EGYPTIAN FOREIGN RELATIONS IN THE EARLY BRONZE AGE I AND II

2.1. Introduction

Ever since Flinders Petrie discovered pottery in Predynastic tombs that was not locally made (Petrie and Quibell 1896: pl. 311, 2a-b), scholars have known that from the fourth millennium BC, Egypt was part of a network of regional exchange relationships. These contacts brought foreign goods into the country and presumably saw Egyptian goods exported in exchange. This pattern of contact increased over the course of the Early Bronze Age, apparently peaking during the late EB IB or Naqada IIIC1 Period, before undergoing a further transformation during the EB II and III.

This chapter draws together the results of new excavations, and re-analyses long-published objects to give an overview of the changing relations between Egypt and the Levant in the EB II. This synthesis will furnish the critical background for understanding the origins and development of Egyptian-Levantine relations in EB III, allowing it to be viewed as an integrated part of the ebb and flow of foreign relations in the eastern Mediterranean across the Early Bronze Age. It will be argued later that Egyptian-Levantine interactions of the EB III are essentially a continuation of relations established in the EB II, but with several changes in emphasis and policy.

2.2. The Early Bronze Age I – Naqada IIB/IIIC1

Levy and van den Brink have outlined six phases to characterise Egyptian-Levantine interaction (ELI) from the Chalcolithic Period to the EB II (2002: 18-29), which can be summarised as follows.

During the earliest phases (ELI Phases 1 and 2), evidence for Egyptian-Levantine interconnections is strongest in northern Egypt at sites with Maadi-Buto cultural horizons (Rizkana and Seeher 1987: 78-80; Amiran and Gophna 1992: 357-8; de Miroschedji 1998: 23; Levy and van den Brink 2002: 19-21). In Canaan, evidence for Egyptian interaction is strongest in the south, particularly around the Gaza region and northern Negev (de Miroschedji 2002: 40-2, fig. 2.2). The exchange of goods was conducted over the north Sinai land bridge using donkeys (Hassan 1988: 161; Oren and Gilead 1981; Stager 1985; Rizkana and Seeher 1989: 78; Wenke 1991: 300; Stager 1992: 27). Cedar pieces at EB IA sites in the Ashkelon region, used in the manufacture of precious objects, along with evidence of EB IA Egyptian maritime activity at North Atlit bay just south of Mount Carmel, points to a network of coastal way-stations on the north-south maritime route from Lebanon to Egypt (Gophna and Liphshitz 1996; Sharvit et al. 2002). The appearance of Egyptian objects at Byblos provides further evidence of this maritime link (Prag 1986, but see Saghih 1983: 105 for an alternative view).

Obsidian from Ethiopia or the Yemeni highlands was also arriving via the Red Sea (Zarins 1989: 366; Bavay et al. 2000b). Some obsidian in the Delta was sourced from Anatolia through down-the-line networks (Bavay et al. 2004).

The EB IB (early)-Naqada IIC/D2 (ELI Phase 3) era witnesses the collapse of the Buto/Maadi culture and the gradual extension of the Upper Egyptian Naqada culture into the Delta. From Naqada IIC onwards, foreign ceramics appear both in the Delta and Upper Egypt (Kroeper 1986/7: 78-9; Kantor 1992: fig. 6.26-30, 47; Hendrickx and Bavay 2002: 67-8). The primary source of this imported pottery on typological and petrographic grounds appears to have been Canaan (Amiran and Glass 1979). In addition, Egyptian craftsmen adopt the foreign practice of adding wavy-ledge handles (Petrie 1896: 38-40; Kantor 1942: 181; Amiran and Glass 1979: 54). In southern Canaan, Naqada IIC Egyptian pottery is found in EB strata (Oren and Yekuteili 1992: 368-71, 380; Amiran and Gophna 1992 with references).

Other luxury raw materials appear in elite Egyptian graves during the latter half of Naqada II. This includes lapis lazuli, for which the closest known source is Badakhshan in modern Afghanistan (Herrmann 1968: 21-9, Crowfoot Payne 1968: 58-61; Bavay 1997), copper objects (Ward 1991: 16-7) and gold, probably mined locally in the Eastern Desert (Ogden 2000: 161). Turquoise, obtained from the Sinai, also appears (Lucas and Harris 1989: 404-5).¹⁸ A trade in asphalt, known from earlier strata at Maadi, probably also continued (Serpico 2000: 456).¹⁹ Tantalising evidence from Hierakonpolis suggests that large cedar logs may have been used for the façade of the Naqada IIC/D cultic building (Friedman 1996: 23-3, 34). If this is confirmed, it would substantiate a sea-borne timber trade to furnish an exotic product for monumental purposes at a very early date. On a smaller scale, a cedar box from the Naqada IIC/D Abydos tomb U-127 is ‘the earliest larger (sic) object made of cedar wood so far known in Egypt’ (Hartung, pers. comm. 11/7/00).

Egypt’s relationship with the Levant was based on a series of exchange networks, sustained by foreign ‘caravaneers’, supplying the country’s elites with exotic products not available locally (Stager 1992: 40; de Miroschedji 2002: 41-4). This may have also involved sea-based networks along the Levantine coast. In return Egypt may have traded grain, Nile and Red Sea shells, gold and semi-precious stones (Ben-Tor 1982: 14; Trigger 1987: 59-60).

During the late EB IB-Naqada IIIA to IIIC1 (Fig. 1) (ELI Phase 4 and 5), a marked degree of social stratification and differentiation also emerges in burial practices from Egyptian cemeteries, which points to greater social complexity and the increasing separation of elites (Trigger 1987: 60).

¹⁸ Lucas noted the presence of turquoise in ‘the neolithic, Badarian and predynastic periods’ (Lucas and Harris 1989: 404).

¹⁹ Serpico reports that an asphalt sample from Maadi had ‘some similarities with the Dead Sea floating blocks’ (2000: 456).

Luxuries such as gold, semi-precious stones and ivory are found in high status Egyptian tombs as symbols and affirmations of wealth and influence (Hassan 1988: 169).

The growing power of elites is also expressed in their control of exchange routes (Trigger 1987: 61) and more elaborate forms of visual display involving the use of exotic goods. Imported ceramics continue appearing in Egypt, with a large corpus known from tomb U-j at Abydos.²⁰ In Canaan, imported Egyptian IID-III A1/2 ceramics are found in the northern Negev area, but in quantities smaller than preceding periods (Amiran and Gophna 1992; Hartung 1994: 109). This exchange probably used donkeys along the northern Sinai land route (Oren 1989; Ben-Tor 1992: fig. 4.6; Dreyer et al. 1998: 96), and included wine from southern Canaan, as botanical evidence from imported ceramic jars found in tomb U-j and other graves at Abydos attests (Dreyer et al. 1998: 92; Hartung 2001; 2002; van den Brink and Braun 2002: 168-9). A wooden box made of cedar from tomb U-j indicates that coniferous timbers were also imported in small quantities (Dreyer et al. 1998: 165, Cat. No. 237, 189-90, fig. 99, pl. 45a-d). Although such pieces were small enough for overland transport (Ward 1991: 14), evidence from Ashkelon cited above makes a sea route possible. A carved obsidian vessel from the same tomb shows that long-range links were not confined to exotic timbers (Dreyer et al. 1998: 170, pl. 41).

By the end of the EB IB-Naqada IIB/C1 (ELI Phase 5) Dynasty 0 kings had pushed the boundaries of their influence beyond the borders of Egypt into southern Canaan (Levy and van den Brink 2002: 20-1, 26-7). The nature and character of this intervention remains hotly debated with scholars variously associating it with trade, colonisation, immigration or military activity followed by occupation (see for example Yadin 1955; Gophna 1987; Brandl 1989; Kempinski 1992; Porat 1992; Finkelstein and Gophna 1993: 11-5; Andelkovic 1995; Gophna 1995: 275; Levy et al. 1997; Braun 2002; de Miroschedji 2002; Braun 2004b). The Egyptian presence in southern Canaan was accompanied by more far-reaching exchange with other parts of the Levant, such as Byblos, to access timber, lapis lazuli and other exotic products (Gale et al. 2000: 349).

Petrographic analysis of imported pottery in Egypt during the late Predynastic period reveals an origin in central and southern Canaan, probably Judea and the Hebron Mountains (Porat 1989: 86). This would support the notion that wine and olive oil from the horticultural heartland of Canaan was sent to Egypt during the EB IB (Finkelstein and Gophna 1993: 13-14). Other imported luxury raw materials include coniferous timbers, such as *Pinus sp.*,

²⁰ It should be noted, however, that many of the apparently foreign vessels from tomb U-j were petrographically identified as a local Egyptian product: see Porat and Goren 2002.

used for an arrow fragment found in Abydos Cemetery B (Western and McLeod 1995: 80; de Vartavan and Aseni-Amorós 1997: 205).²¹

Egyptian activity was the most intense in southern Canaan (de Miroschedji 2002: 44-5, fig. 2.4). At Tell es-Sakan in the Gaza region, impressive EB IB fortifications along with an assemblage of predominately Egyptian ceramics suggest that this was an Egyptian colony, acting as a forward base for Egyptian activity further north (de Miroschedji 2001a and references). En Besor and Tel Ma'ahaz, have likewise revealed evidence of activity consistent with a substantial Egyptian resident population supported by a state administrative apparatus (Gophna and Gazit 1985; Braun 2004b: 512). Elsewhere in southern Canaan, imported Egyptian and locally made egyptianising pottery is known from just about every site in the region with EB IB strata, while Egyptian stone tools and other objects have also come to light (Porat 1989; Brandl 1992; 1989; Kempinski and Gilead 1991; de Miroschedji 2002: 41-5, Braun 2004: 512-4). The extent of this activity stretches as far north as Lod (van den Brink 2002), with the location of sites concentrated on main east-west drainage systems, thus affording access to the coast and sites in the hinterland (Ilan 2002). At these settlements, Egyptian finds include fragments of large storage jars ('wine jars'), used for the transportation of commodities such as oil, grain or possibly even Egyptian wine (Gophna 1987: 17; Brandl 1989: figs 9-11; Gophna 1992; Levy et al. 1995; van den Brink and Braun 2002). The evidence for a seemingly peaceful and officially sanctioned Egyptian administrative presence embraces a number of artefact classes, including Egyptian *serekhs* incised onto ceramic vessels, clay bullae and seals, architecture with Egyptian elements, Egyptian ceramics and other objects (for a summary, see Gophna 1987; Brandl 1992; de Miroschedji 2002).

2.3. The Early Bronze Age II–Early Dynastic Period

The beginning of the EB II (ELI 6) is traditionally synchronised with the ED (1st-2nd Dynasties), starting with the reign of Djer (Table 3) (Amiran 1969a; Kantor 1992; Stager 1992; Adams 1995; Levy et al. 1995: 33). This period witnessed a significant change in the nature of the relationship between Egypt and the Levant. However, like the previous era, the acquisition of prestige goods still served to enhance and augment the status and authority of Egyptian elites (Joffe 1993: 59).

The following sections will assess these developments by examining key aspects of the archaeological material. This evidence includes the importation of commodities, Abydos Ware, Egypt's relationship with the Sinai, Arad and

²¹ *Pinaceae* *L.* pollens were also reported from Predynastic/ED contexts in the eastern Delta (de Vartavan and Aseni-Amorós 1997: 205).

northern Canaan, and the appearance of Egyptian stone vessels in EB II Canaan. Various problems concerning the nature of this evidence for EB II interrelations will also be canvassed.

*Table 3: Summary of EB II Synchronisms with Egypt*²²

<i>Canaan</i>	<i>Egypt</i>	<i>Date</i>
<i>EB II</i>	<i>1st Dynasty</i>	3000-2890BC
En Besor Str. II, Tel Yarmuth Ph. 0-1,	Djer (Abydos O)	
Arad III, Ai Ph. III-IV, Sinai Sheikh	Djet (Abydos Z)	
Mukhsen, Arad II, Dan Str. XV, Beth	Den (Abydos Y)	
Yerah Str. XIII, Megiddo Str. XVIII,	Merytneith (Abydos T)	
Tel Erani Str. IV-II(?)	Anedjib (Abydos X)	
	Semerkhet (Abydos U)	
	Qa'a (Abydos Q)	
<i>EB II late</i>	<i>2nd Dynasty</i>	2890-2686BC
Arad II-I?, Tel Yarmuth Ph. II, Beth	Hetepsekhemwy	
Yerah Str. XII, Megiddo Str. XVIII,	Raneb	
Ai Ph. V	Nynetjer	
	Weneg	
	Sened	
	Peribsen (Abydos P)	
	Khasekhemwy(Abydos V)	

2.3.1. Egypt and southern Canaan at the end of the EB IB

The reigns of Ka, Narmer and Horus Aha mark the zenith of Egyptian interest in southern Canaan, but by the time of Djer a significant change in Egyptian-Levantine relations takes place (Porat 1992; de Miroschedji 2002: 45-6). Most importantly, the Egyptian presence in southern Canaan undergoes a rapid contraction at all sites (Ben-Tor 1991: 4; de Miroschedji 2002: 44-6). The volume of imported ceramics in Egypt diminishes and from the reign of Djer onwards, various types of Abydos Ware appear, providing critical synchronisms with EB II Canaan (Amiran 1974b; Hendrickx and Bavay 2002: 70-2).

The reasons for this change in regional interaction are not clear and continue to be much debated. One explanation is that Egypt withdrew from Canaan in order to focus on nation-building activities, like the organisation of administrative and political structures, the elaboration of state mythology, and the construction of monumental architecture (Oren 1989: 403-4). Concomitant with this, by the beginning of the 1st Dynasty, Egypt may have developed a

²² The chronological synchronisms used here based on Hartung (1994), Levy et al. (1995: 33), Gophna (1995) and Hendrickx and Bavay (2002).

stronger national identity and thus more defined geographical borders that excluded foreign lands (Hendrickx and Bavay 2002: 206; Kansa and Levy 2002: 206).

Less plausibly, Kempinski linked the change in the relationship to Egypt's growing command of Sinai copper resources, and a parallel deterioration of Arad's control of this resource on the peninsula and in the Wadi Arabah (1983: 239). Another possible explanation might be the growing independence of towns in Canaan (Wilkinson 1999: 155-7), thus generating an increasing level of hostility to an official Egyptian presence. The fortification of towns may itself have been a reaction 'of the people of the Southern Levant to the assertion of Egyptian national identity' (Kansa and Levy 2002: 206).

While any or all of these factors may have played a role, to these should be added a change in the commodities required by the Egyptian state, and the procurement mechanisms, which offers a prosaic and practical reason for Egypt's withdrawal from the region. This is linked to the evolution of Egyptian kingship at the beginning of the 1st Dynasty and the need to procure greater quantities of luxury goods, as evidenced by the size, scope and endowments of the royal funerary monuments at Abydos. A change in procurement mechanisms meant that the Egyptian state did not require the large-scale established presence of officials in southern Canaan to facilitate land-based exchange networks (Joffe 1993: 57). The primary motivator for change was probably the development of a large-scale sea-borne trading network to ship heavy timbers for construction from the Levantine coast (Prag 1986: 59-60; Esse 1989: 88; Stager 1992: 40; de Miroschedji 1998: 28-9; Marcus 2002: 407-8).

2.3.2. Early Dynastic Egypt and the 'foreign lands'

While the Egyptian presence in southern Canaan during the EB IB seems to have been peaceful, by the ED, Egyptian military activity in Canaan seems well attested at first sight (Hennessy 1967: 74; Wright 1985: 248-51). Evidence includes the Palermo Stone, fragmentary seal impressions and inscriptions, carved labels, and gaming pieces with smiting and bound captive scenes (Petrie 1900: pl. 12.12-3; Petrie 1901: pls 3a.1, 4.12; Gunn 1928: 153, 160; Wright 1985: 248; Godron 1990a; 1990b). On the basis of surviving evidence, king Den appears to have been particularly active (Kaplony 2002: 464-76; Mumford 2006: 52-3), with the ivory label showing him smiting a foreigner on a sandy mountainous terrain, accompanied by the caption 'first time smiting the easterners', surely one of early Egypt's best-known objects (see Spencer 1996: cover). Needless to say, the extent to which these images refer to actual historical events or simply belong to standard images of kingly power is debateable (Baines 1995a; 1995b), as is the location of these activities in the Sinai, north eastern Egypt or Canaan (Mumford 2006: 53).

Some of these objects bear the word *Stt*, and the phrases *skr* [smiting] *st.twy* and *in(w) Stt*, which have been taken as evidence of ED military action in Canaan (Anati 1963: 356; Lapp 1970: 121-2; Drower and Bottero 1971: 357; Wilkinson 1999: 155-7; Godron 1990b). Some debate has taken place over the location of *Stt* in the ED, with Ward proposing that the term referred to a region in, or near, Egypt (1963: 18), Canaan (Godron 1990a: 194) or the Sinai (Edwards 1964: 18).²³ Ward's position is supported by a sealing from Peribsen's Abydos tomb bearing *in(w) Stt* written with a town determinative (Petrie 1901: pl. 22.181), leading to the suggestion that this phrase probably refers to the movement of produce from a 'royal domain' in the Delta (Kaplony 1963: 783-87; Wilkinson 1999: 157), rather than military activity in Asia (e.g. Gunn 1928: 160; Wright 1985: 250; Ward 1991: 12). Moreover, an OK inscription from Wadi Kharig mentions the region of *Stt* in conjunction with the king's activities there, a reference which must refer to the Sinai in this context (Fig. 17 [107]) (Giveon 1977). Hence, during the ED, it is not inconceivable that the term referred to the same area. Similar expressions, like 'Smiting of the *Twntyw*' from Den's Palermo Stone entry, and breached enclosures on labels likewise may refer to military action in the Delta, an unspecified area northeast of the Delta or the Sinai (Petrie 1900: 15.16-7; Gardiner et al. 1955: 2; Gardiner 1961: 414-5; Kaplony 1963: 783-7; Wright 1985: 248-51; Godron 1990a: 149-50; Ward 1991: 12; Stager 1992: 35).

Likewise, the phrase *in(w)*, once regarded as meaning 'conqueror of...', is now viewed in a different light (see Godron 1990a: 158). Redford believes the term does not refer to military action *per se*, but rather to an Egyptian role in Canaan which still embraced an element of coercion, translating it as 'benevolence' or a form of enforced gift or tribute (Müller-Wollermann 1983; Boochs 1984; Redford 1986a: 135 n. *ab*, 140). Ogden on the other hand, prefers a more benign activity, translating the term as meaning produce, gift or tribute brought from a location (1982; Godron 1990a: 158). In the third millennium, the term apparently had a specific meaning, embracing a form of redistributive gift-giving involving the king as either recipient or donor (Bleiberg 1996: 53). Thus the term *in(w) Stt* may have referred to gifts received or given by the king from the Delta or beyond Egypt's borders.

The term *wnt* ('stronghold'), thought to refer to a walled town or settlement in either the Levant or the north eastern Delta (Zibelius 1978: 67-9), is also known from a tablet or label from the reign of Den, which mentions an expedition by the king which may involve military force (Petrie 1900: pl. 15.18; Redford 1986a: 135; Godron 1990a: 167-9; Mumford 2006: 53). In the OK, especially in the 6th Dynasty, many scholars place *wnt* in Canaan

²³ Siheil Island near the First Cataract is also proposed as the location of *Stt*, but this seems unlikely (Redford 1986a: 135 n. *ac*; Godron 1990a: 158-9). The term probably acquired a broader geographical meaning over time, embracing parts of the Levant: see Posener-Kriéger 1969.

(Drioton 1943: 487-514; Fischer 1959: 260-4; Helck 1971: 17 n. 42 and 18, no. 49; Zibelius 1978: 69; Wright 1988: 153). As to whether this was the case during the ED era remains to be clarified (Godron 1990a: 168-9, 191).

This is not to say that no Egyptian military activity occurred in Canaan during the ED (see Godron 1990b).²⁴ Canaan's larger, fortified urban centres ruled by elites or 'independent administrative authorities' (Joffe 1993: 84) probably presented a more complex political, commercial and defence environment for Egypt than the communities of the EB IB.²⁵ Rather, owing to uncertainties surrounding aspects of the documentary evidence, such as the situation of *Sṯt*, the meaning of *in(w)* and the identity and location of various ethnic groups mentioned in the texts, piecing together the precise historical situation becomes increasingly difficult. Indeed, it is possible that much of this military action documents campaigns against local Sinai tribespeople, fuelled by the Egyptian desire to gain access to its rich resources (Helck 1971: 13-6; Stager 1992: 35; Mumford 2006: 52-4).

Another word, *ḥ3st*, is actually attested in EB IB-II Canaan, and thus probably refers more specifically to the region. Likewise the contexts in which the word occurs do not indicate military activity. The seal mentioning *ḥ3st* from EB IB Nahal Tillah (Levy et al. 1997: 18) and the inscribed pot from EB II Beth Yerah (Greenberg and Eisenberg 2002; see Ch. 2.3.5 below) were discovered in settlement and ritual contexts respectively. Moreover, a title from the reign of Djoser from the Wadi Maghara mentions *ḥ3st* 'administrator of the foreign land/hill country' (Gardiner et al. 1955: 53), indicating that *ḥ3st* may have referred to both the Sinai, Canaan and other mountainous regions beyond Egypt (Godron 1990a: 155-9; Wilkinson 1999: 167).

While documentary and archaeological evidence is more fulsome for the 1st Dynasty, the same cannot be said for the succeeding period. Very little is known about the historical events of the 2nd Dynasty, with Egyptian written sources alluding to a period of internal strife (Gardiner 1961: 415-25; Emery 1961: 91-104; Grimal 1992: 54-7; Wilkinson 1999: 82-94). Few royal monuments from the period exist, with the location of some royal tombs still not known (Hennessy 1967: 86; Kantor 1992: 20).

Traditionally, the 2nd Dynasty has been seen as a period of waning cultural interconnections with Canaan in particular (Marfoe 1987: 26; Andrassy 1991: 138). However, an increasing number of foreign objects or raw materials from this era are coming to light that is slowly changing perceptions of this shadowy period. These include several imported Abydos Ware jars from Helwan and Saqqara (Saad 1947: pl. 34.3; Emery 1949: fig.

²⁴ See for example Godron's analysis of the reign of Den (1990a: 195-7).

²⁵ Indeed, the EB II destructions at centres like Ai are attributed by some to the hand of the Egyptian state (Hennessy 1967: 88).

68; Köhler 1998a: 70-1). Other items include coniferous timbers imported in significant quantities (see Ch. 2.3.6). A seal mentioning *in(w) ḥ3st* and an inscription on a stone vessel of Peribsen mentioning *in(w) ḥ3st* could be translated as ‘produce/gift/tribute of the mountainous/foreign country’ (Gunn 1928: 160, No. A13; Ogden 1982), suggesting official gifts/trade/exchange with Canaan or the Sinai during his reign.²⁶ Hence, the title *imi-r(3) ḥ3st* ‘overseer of the foreign land/hill country’ appearing for the first time during the reign of Khasekhemwy (Godron 1990a: 158; Redford 1992: 37; Wilkinson 1999: 157), may have belonged to an official with a wide geographical brief, embracing relations with both Sinai, Canaan and other regions beyond Egypt proper.

2.3.3. The development of complex society in Canaan and the role of Egypt

The impetus for the development of complex society is a topic over which scholars are divided. Some believe the stimulus came from Egypt and then moved northward (Kempinski and Gilead 1991: 189; Kempinski 1992), and by others to have originated in the north (Syria/Mesopotamia) and slowly moved south (Amiran 1970b). Various models have been developed with which to examine the archaeological material as evidence for the nature of Egyptian contact (Esse 1989; Joffe 1993; Levy et al. 1997; Levy and van den Brink 2002).

During the EB IB, the arrival of the administrative apparatus of the Egyptian state at Tell es-Sakan, En Besor and possibly Tell Ma’ahaz may have had a profound impact on the existing elites. This ‘asymmetrical culture contact’ between the core (Egypt) and periphery (Canaan) involved the presence of a structured hierarchy to facilitate economic activity and the organised acquisition of commodities. This greatly influenced subsistence-based agrarian communities (Joffe 1993: 54-8).²⁷ Moreover, an increased level of economic and social organisation was required on the part of local communities to supply commodities such as wine from its vineyards in sufficient quantities (Finkelstein and Gophna 1993: 13-4).

While Egypt’s position and influence was most evident in the south, this stimulus was felt elsewhere in Canaan, but may have lessened with distance:

²⁶ As this stone vessel is an Egyptian travertine type, it seems unlikely that this was the actual container in which the product was transported (Godron 1990a: 158). Wilkinson suggests the term *in(w) ḥ3st* refers to ‘foreign tribute’ or ‘conqueror of a foreign land’ (1999: 157); the latter seems least likely.

²⁷ This influence did not extend, however, to the use of writing, artistic influences, the adoption of certain technologies (e.g. stone vessel making) or ‘organisational patterns’ (Joffe 1991: 32). Yoffee observes that the Urukian colonies in Syria likewise left a profound cultural legacy after their withdrawal (Yoffee 1995: 1392).

Amiran notes a southward cultural diffusion from the northern Levant that probably had an equal if not greater impact in northern Canaan (1970b; Joffe 1993: 55). However, even here the effect of Egypt's state apparatus can be observed well into the EB II (Greenberg and Eisenberg 2002).

The EB II witnesses a change in settlement patterns and the emergence of large, fortified complexes in Canaan (Fig. 2) (Schaub 1982; Esse 1989; de Miroschedji 1989: 67-8; Mazar 1992: 108-17; Joffe 1993: 68-79; Gophna 1995: 273-4). The development of these towns followed intense interaction with the developing Egyptian state in the EB IB, which probably provided some of the impetus for growth, particularly in the south (Kempinski 1992; Esse 1991: 91; Stager 1992: 40; Mazar 1992: 140; Joffe 1993: 54). The rise of EB II urban complexes may have also been affected by an increasing level of migration and nomadism at the end of the EB IB (Gophna 1995: 274-5), associated with 'the weakening of connections [with] Egypt' (Portugali and Gophna 1993: 181).

Further detailed analysis of these important issues is beyond the scope of this study. Needless to say, the nature of Egypt's role in the process of secondary state formation is contentious (Kempinski and Gilead 1991; Kempinski 1992; Gophna 1995: 275; Levy et al. 1997: 2-7). For our purposes, it is sufficient to understand that in the EB II interconnections continued between Egypt and Canaan, but that the character and intensity of these relationships changed. With the emergence of larger population centres in the Levant and the administrative structures necessary to support more complex social organisation (Esse 1989: 87-9), a change in attitude to, and regard by, the Egyptian administration for the urban complexes in Canaan is evident. This approach characterised Egypt's relations with her neighbours for much of the third millennium.

2.3.4. Egyptian material in Canaan and the problem of identification

Scholars have pointed to a disproportionate quantity of foreign pottery in Egypt relative to Egyptian material in Canaan during the EB II (Hennessy 1967: 68; Ben-Tor 1991: 4), with some even suggesting that 'connections between Egypt and southern Canaan were almost severed at the beginning of [the] EB II' (Porat 1989: 87). While this pattern is striking, the evidence has been distorted by problems and inefficiencies in the identification and publication of Egyptian pottery in Canaan (Brandl 1989: 368-72).

Nevertheless, published reports still give tantalising glimpses of a relationship between Egypt and Canaan during the EB II that is much stronger than usually assumed. While the foreign pottery from Egyptian ED tombs is well-known and comprehensively studied (see the Ch. 2.3.7 below), the same cannot be said of corresponding sites to the north east. Indeed, the quantity of Egyptian material in the region during the EB II, when examined as a whole, points to a two-way relationship involving both commodities (raw products),

prestige goods and by extension interaction (and possibly the arrival in Egypt) with foreign peoples. For example, Egyptian pottery is reported from EB II Afeq (Kochavi 1981: 76), but little studied and published. Ceramics and raw materials of possible Egyptian origin are observed at Tell Abu al-Kharaz, but further analysis is required for some of this material (Fischer 2002). An Egyptian stone vessel and palette were found in an EB II tomb at En Assawir, although these objects are dated earlier than the tomb itself and are described as heirlooms (Yannai 2002). Greenberg is convinced that further Egyptian imports can be found amidst the material from Beth Yerah (pers. comm. 24/2/99). An Egyptian jar has also been identified at Megiddo (Amiran 1974b: fig. 2.11). An imported Egyptian seal from EB II Bab edh-Dhra (Lapp 1989: 9-12; 1995: 50, Reg. 2823) was in an ambiguous context, but an EB II date of arrival for the seal is possible.²⁸ In the Sinai, Egyptian pottery is reported at sixteen EB II settlements (summarised by Mumford 2006: 53; see Ch. 2.3.9). Imported Egyptian siltstone palettes are also known, but a number are too poorly published to allow accurate identification (see Ch. 8.3).

Much of this material remains poorly studied or unknown for various reasons. Publication of Israeli surveys in the Sinai after the Six Day War has been a politically sensitive issue. Secondly, for many years few archaeologists working in Israel had sufficient familiarity with Egyptian material to identify Egyptian pottery (Brandl 1989: 368-72), so it was noted but generally neglected (Amiran 1974b: 9).²⁹ Knowledge of Egyptian pottery has increased considerably over the last thirty years and thus helped to redress an imbalance in material culture studies (Arnold and Bourriau 1993; French 1998). These promising developments notwithstanding, Egyptian ED material from older excavations in Canaan may languish in storerooms awaiting further study.

A complete re-analysis of EB II-ED relations is beyond the scope of this study. However, it is now evident that, owing to the identification of more 1st-2nd Dynasty material at Arad, Tel Yarmuth, Beth Yerah and other sites, a more robust two-way relationship between Egypt and Canaan existed in the EB II than has hitherto been attested.

²⁸ Lapp describes the context as 'EB III pottery; fell out of EB II balk (sic) context' (Lapp 1995: 50). Van den Brink notes that such seals were 'well known in Egypt from the second half of the First Dynasty onwards, but it is most common during the Second and Third Dynasties' (1995: 204). A date not earlier than the mid-1st Dynasty to 3rd Dynasty is preferred, which, along with the ambiguity of the context, indicates a probable EB II date for the arrival and deposition of the seal. However, the early OK cannot be ruled out.

²⁹ Amiran correctly identified a small number of Egyptian sherds at Arad (Amiran 1978a: pl. 55), but they were missed at Tel Erani (Brandl 1989: 368-76).

2.3.5. The case of Beth Yerah

Beth Yerah illustrates the traditional problems surrounding the study of Egyptian material in EB II-III Canaan, and the tantalising results stemming from re-analysis. Sporadically excavated since the 1930s, much material from this site remains unpublished (Greenberg and Eisenberg 2002: 213).³⁰

Nevertheless, important new material was recently noted in the sherd collection now held at the Israel Antiquities Authority storeroom at Romema (Jerusalem). Greenberg identified a red-slipped Egyptian ovoid jar and a one-handled jar of local clay bearing Egyptian hieroglyphs from EB II levels (Greenberg and Eisenberg 2002). The former is a small container of modest proportions with a wide neck, made of Nile silt, found in a room of unknown function.³¹ On typological grounds it dates to the ED and was found in a mid-EB II context (Greenberg and Eisenberg 2002: 214, fig. 13.3). As such, it fits well with evidence of direct Egyptian imports further south.

The one-handled jar was even more intriguing (Fig. 3a). Greenberg identified the fabric as belonging to Porat and Adam's Group B, the local Beth Yerah/Kinneret fabric (Porat and Adams 1996: 102-4; Greenberg and Eisenberg 2002: 219). It was found in a deposit dating to the later part of the EB II, even though Kaplony suggested that the name inscribed on it belonged to the mid-1st Dynasty (2002: 472).³² The hieroglyphs, incised onto the surface post-firing, represent the name of an official named *hm-h3st(i)* 'Hem-Khasti', translated as 'Servant of the Mountain God' (Kaplony 2002: 465). This name is consistent with a similar phrase identified on a seal from Tel Halif in southern Canaan (Levy et al. 1997: 18). Found in a pit along with other vessels, the Beth Yerah jar appears to have been part of a ritual deposit. The name, coupled with the findspot, led Greenberg to suggest that 'an Egyptian residing at Beth Yerah incised his name on one of a group of local Canaanite objects used in, and perhaps especially prepared for, a ritual' (Greenberg and Eisenberg 2002: 219).

The presence in a good EB II context of a local vessel inscribed with an Egyptian hieroglyphic name speaks of Egyptians physically present at Beth Yerah at this time. As Greenberg suggests, perhaps their role was to act as agents, emissaries or diplomats of the Egyptian court, sourcing products and managing the Egyptian side of an interregional relationship based on the exchange of goods (Greenberg and Eisenberg 2002: 219-20). The distribution network may have been partially overland to the coast via the Jezreel Valley, thence by sea to Egypt, a faster route than sending goods by overland donkey

³⁰ But see Esse 1991 for publication of recently excavated material from the site.

³¹ This vessel was examined by the writer at the IAA Jerusalem storerooms in 1996.

³² On the basis of published information and stratigraphy, the precise archaeological difference between these distinctions is unclear.

caravan (Porat 1989: 87). This trade may have been reciprocal as the Egyptian ovoid jar at Beth Yerah suggests (Greenberg and Eisenberg 2002: 220).³³

2.3.6. Commodities imported into Egypt

The acquisition of prestige goods by elites continued unabated during the ED Period, signalling the on-going use of networks established in the Late Predynastic era. Semi-precious stones including lapis lazuli from Afghanistan (Crowfoot Payne 1968; Bavay 1997), Sinai turquoise (Petrie 1901: frontispiece), and Ethiopian obsidian (Zarins 1989) were made into luxury items like beads, amulets and stone vessels (Aston 1994). Copper also continued appearing but its precise sources are not known with certainty (Kaczmarczyk and Hedges 1983: 230-3; see Ch. 2.3.9 below).

The question of when cedar was first imported into Egypt is a vexed one. Prag asserts that Levantine coniferous timbers may have been imported into Egypt as early as the beginning of the fourth millennium (Brunton and Caton-Thompson 1928: 62-3; Prag 1986: 71; *contra* Ben-Tor 1991: 4 and Ward 1991: 13). While this claim remains untested, new material suggests traces of cedar pollens and wood as early as the *floruit* of Maadi (Amorós and Vozenin-Serra 1998: 228-31; Kroll in Rizkana and Seeher 1989: 134-5). Cedar and Turkey oak pieces were also found at EB IA sites in the Ashkelon trough, suggesting the existence of a coastal way-station in Canaan, bringing cedar in small quantities south from the Lebanon as early as the mid-fourth millennium (Gophna and Liphshitz 1996). As noted in Ch. 2.2, cedar is known from Predynastic contexts at Abydos and elsewhere.

Petrie noted coniferous timber beams in Djet's Abydos tomb (Petrie 1900: 9), a conclusion later interpreted as cedar (e.g. Emery 1961: 204; Hoffman 1984: 272), although this was not based on any analysis. Emery mentioned cypress and cedar in 1st and 2nd Dynasty tombs, but again no analysis was published (Emery 1961: 204; 1962: 7). As this evidence could not be verified, Ben-Tor asserted that the sea-going cedar trade did not commence until the 4th Dynasty, when Egypt shifted its attention to Byblos (Kempinski 1983: 239-40; Ben-Tor 1991: 4). Others believe this shift occurred at the end of the 2nd Dynasty (Marfoe 1987: 27; Greenberg and Eisenberg 2002: 220).

However, timber analysis from the Abydos tomb of Horus Aha shows that cedar beams were in fact used as roofing (Hartung, pers. comm. 11/7/00; Gale et al. 2000: 349). While the exact size of these timbers beams is not known, this highlights the existence of royal trading networks to acquire cedar on a large scale at the dawn of the 1st Dynasty, as Ward suspected (1991: 13;

³³ Kaplony's (2002: 470-2) suggestion of an ED land route to the Syrian city of Qatna via Beth Yerah, which was allegedly secured by Den, seems far-fetched without other supporting evidence. In any case, the sea-route, thence overland via Tell Arqa would have been more efficient in ancient times.

contra Marfoe 1987: 27; Ben-Tor 1991: 3-4). Moreover, if the wooden roofing beams from Djet's tomb are coniferous timbers measuring '240 inches in length' (or over 6m) as Petrie suggests (1900: 9),³⁴ such timbers were certainly imported from the Levantine coniferous forests by sea for at least part of the journey (Gale et al. 2000: 349-52). This conclusion may also have some textual support, as a tablet from Abydos depicts in the lower register ships returning with what has been interpreted as cargoes of *mrw*-wood (Petrie 1901: pl. 11.2; O'Connor 1987: 33-4).

A growing body of evidence speaks of this trade continuing in the 2nd Dynasty. Other timber analyses reveal the use of cedar for the manufacture of a 2nd Dynasty coffin from Saqqara (Emery 1962: 7-8), in addition to *Cedrus libani* and *Juniperus spec.* for unspecified 2nd Dynasty objects from Abydos (Germer 1988: 55).³⁵ Cedar was also used extensively in the construction of Khasekhemwy's Abydos tomb (Dreyer et al. 2003: 112-4).

All this evidence supports Ward's contention that the coniferous timber trade began in the latter part of the fourth millennium BC (Ward 1963: 42, 53; 1991: 13). However, contrary to Ward's view, these timbers were not small pieces of coniferous woods (Ward 1991: 14), but a major sea-borne trade in large cedar logs (Stager 1992: 40). This heralded an era of 'spiralling interdependence between timber procurement, ship construction and carrying capacity' (Marfoe 1987: 27) between Egypt and the timber-getting regions of the Levant.

Along with timbers, resins from coniferous trees such as pine were also imported in Abydos Ware jugs first seen in the reign of Djer (see Ch. 2.3.7 below). Other imports may have included the continuation of the wine and olive oil trade from the hill country of Canaan, so important in the Naqada IIIA2 (Finkelstein and Gophna 1993: 11-4). However, Egypt began cultivating grapes in the ED (Murray et al. 2000: 577), so this trade may have weakened (Marfoe 1987: 27). Olive oil is another product that was probably imported from the same region (Finkelstein and Gophna 1993: 11-4), but it has not been attested in any residues.

Moreover, the existence of this state-sponsored exchange provides a framework for the appearance of certain other objects at Byblos (Ward 1963: 18-9). It is also possible that the maritime network was serviced by way-stations on the coast of Canaan, to which products from the hinterland were delivered (Marcus 2002: 407-8; Stanley 2002). Indeed, far from the Byblos maritime network intensifying at the end of the 2nd Dynasty (Greenberg and Eisenberg 2002: 220-1), it seems likely that it was already well-established.

³⁴ Timbers of similar dimensions were found in the ED tombs of Saqqara; these too could be coniferous timbers (see Emery 1949; 1954; 1958; Ward 1991: 13-4).

³⁵ These samples were identified by A. Lucas (Saqqara coffin) and D. Grosser of the Institut für Holzforschung der Universität München (Abydos wood samples).

The other commodity that may have been imported in significant quantities during the ED is copper (see Ch. 2.3.9 below). Research into this question is still in its infancy, but archaeologists working in the rich copper-bearing area of the Feinan in the Wadi Arabah (modern Jordan) report evidence for a significant increase in copper production during the EB II (Adams 1999: 176-80), a period concomitant with an increased demand for the resource by the fledgling Egyptian state (Marfoe 1987: 26-8).

2.3.7. Abydos Ware and its origins

Under King Djer, a particular product(s) was imported in a variety of narrow-necked ceramic jugs (Fig. 3). These pots are rather erroneously known as ‘Abydos Ware’, because they were first discovered in the royal tombs at Abydos by Amélineau (1899; 1902; 1904) and Petrie (1901: pl. 54).³⁶ This group synchronises this era with EB II Canaan, and is worthy of lengthy discussion. However, while the ceramics are undoubtedly important, it was the contents that fuelled Egypt’s interest (Gates 1988: 68-9).

Since the discoveries of Petrie and Amélineau, examples have come to light in private tombs at many other sites, including Saqqara, Abu Roash, Abusir, Turah, Tarkhan, Abusir el Meleq, Lahun, Minshat Abu Omar, Tell Ibrahim Awad and Helwan.³⁷ Most examples come from the north, with Abydos being the only southern site where they have been found (Hendrickx and Bavay 2002: 70). This reflects the proximity of northern sites to land and sea routes, but also underscores the importance of Memphis in the local distribution networks of luxury products.

It is generally thought that Abydos Ware imports ceased by the end of the 1st Dynasty (Hennessy 1967: 49; Porat and Adams 1996: 98), but the presence of imported flasks at Helwan and Saqqara in tombs of possible late 1st-early 2nd Dynasty date shows that this may not be the case (Saad 1947: pl. 34.3; Emery 1949: fig. 68; Köhler 1998a: 70-1). Indeed, a Saqqara tomb of possible 2nd or even 3rd Dynasty date with foreign ceramics shows that imports continued beyond the 1st Dynasty (Macramallah 1940: 36-7, fig. 29). Thus, the impression of a termination of Abydos Ware imports may be caused

³⁶ Petrie believed the ware to be Aegean in origin (Petrie 1901: 46-7). The term ‘Abydos Ware’ has often been applied to this shape, but its use in the literature varies considerably between scholars. For a discussion of this issue, see originally Albright 1949, then Amiran 1974a; Kantor 1992: 19. The term is used in the present work as convenient ‘shorthand’ to describe all imported ceramics in ED Egypt.

³⁷ For a full list of examples and sites, see Hendrickx and Bavay 2002: 71-2. Köhler’s description of the fabric of the Helwan sherds indicates that they belong to Porat and Adams’ Group B from the Lower Galilee/Lake Kinneret area (1998a: 70). The jug published by Köhler 2004: 304, fig. 5 right is made of a local clay (J. Smythe, pers. comm. 19/4/07).

by the relative paucity of 2nd and 3rd Dynasty excavated material rather than changes in patterns of exchange (Kantor 1992: 20).

The imported pottery encompasses a surprising number of shape variations (Macramallah 1940: pl. 46, group S; Hennessy 1967: 49-52; Helck 1971: 28-34; Stager 1992). These range from narrow or more ovoid jars with or without a single handle (Fig. 3b-c) (Petrie 1902: pl. viii.1-5; Emery 1954: fig. 58, G9-12, Emery 1958: pl. 75, G1-3, 6, 12, 15), through two or multi-handled jars (Petrie 1902: 6-8; Emery 1958: pl. 75, G14), to a wide-bodied ledge-handled vessel with a 'pillar' handle from rim to shoulder (Emery 1958: pl. 70b and 75, G13). Hennessy notes that this latter type is not found north of Ai, so the origin lies somewhere in southern Canaan; the type was also noted at Arad (1967: 51, Amiran 1978a: pl. 38).³⁸ A small number of ED Combed Wares are also known from Buto Stratum V, Abydos and Saqqara (Petrie 1900: pl. 38.9; Macramallah 1940: 36-7, no. 20, fig. 29.20; Porat and Adams 1996: 100, UC 17388; Köhler 1998b: 144, pl. 68.9-11).³⁹ An imported zoomorphic vessel was also identified in a 1st Dynasty context at Minshat Abu Omar (Krzyzaniak et al. 1996: cover).

The most common shape is a flat-base ovoid jar with or without a single strap handle (Fig. 3b). It occurs in Canaan during the EB II and, to a lesser extent, the EB III (Esse 1991: 104-7). On the basis of vessels that are available for study, they can be divided into several distinct types based on ware (Hendrickx and Bavay 2002: 70).⁴⁰ These are Red Slipped Metallic Ware and Standard EB Red Slipped (or Red Polished) Ware, the latter being a low-fired buff coloured fabric that is similar in composition to the fabric of Light Face Painted Ware (Esse 1991: 104-7; Kantor 1992: 19; Porat and Adams 1996).⁴¹ Stager's Deep Grooved Lattice Burnished Ware (Stager 1992: 38) should be regarded as another variant on the basis of the surface finish.

The other type of jug is called 'Light Faced Painted Ware' (LFPW) (Fig. 3d) and is found at Saqqara, Abydos, Abusir and Abusir el-Meleq (Amiran 1974a: 65; Hendrickx and Bavay 2002: 72). A decorated ceramic of red and

³⁸ Helck identifies a vessel from an OK Giza tomb as the same type, but this is not the case. Compare Helck 1971: Type K(2) with Hassan 1936: pl. 47.3.

³⁹ The Combed Ware from ED Abydos, Petrie's 'Amorite ware', has not been studied and the contexts are not entirely secure. Significantly, Hennessy noted that in the spectrographic analysis of this material, it 'returned readings indistinguishable from those of the other foreign wares of Abydos' (Hennessy 1967: 115 n. 73).

⁴⁰ Bourriau and Nicholson define ware as 'the fabric, plus the surface treatment of the vessel, whether it is slipped, burnished, painted or incised, for example, plus the technology of the shaping process' (Bourriau and Nicholson 1992: 30).

⁴¹ In 1991 the author examined many of the imported ceramics from 1st Dynasty Abydos royal tombs held by the Petrie Museum (University College London). A range of fabrics and surface finishes was observed; some were slipped and burnished, others unburnished, while several were pattern burnished with diagonal lines. The term 'Red Slipped' has been used here as not all the vessels are burnished.

white dots, horizontal lines and pendant triangles around the shoulder, this ware type is found from the reigns of Den to Qa'a with a single example known in the early 2nd Dynasty (Amiran 1974a: 65-7).⁴² This period is associated with the latter part of the EB II (Porat and Adams 1996: 104).⁴³ LFPW occurs all over EB II Canaan with its northern-most appearance in Phases G-H at Tell Judeideh in north Syria (Hennessy 1967: 51; Genz 1993). The largest quantity is known from Arad, which was probably one of its major production centres (Amiran 1974a; Esse 1991: 108; Stager 1992: 38). Indeed, a trace element study conducted by Hennessy concluded that some of the painted wares from Abydos had originated in Canaan (1967: 55-60). In an effort to further refine the data Esse alluded to similarities of shape between LFPW vessels from southern Canaan, especially Arad, and those from Egypt, thereby suggesting a southern origin for the jars in Egypt (1991: 108-9; see also Stager 1992: 38).⁴⁴ While the imported vessels in Egypt do bear strong affinities with LFPW of southern Canaan, ultimately only petrographic or elemental analysis can clarify their precise provenance. However, Arad's role in the distribution of Feinan copper may provide a rationale for the acquisition of LFPW jugs by the Egyptians from this region. Improved techniques of analysis, combined with the discovery of additional material at Khirbet ez-Zeraqun (Genz 1993) and Tell Abu al-Kharaz (Fischer 2002) in Jordan, means that a re-assessment of Abydos Ware is appropriate.

Over 120 Red Slipped Ware vessels are known from ED Egypt, but many of these are inadequately published to allow further analysis, even on the basis of shape (Esse 1991: 105). It is possible that some of these vessels may be local copies of imported shapes (Saghieh 1983: 104), but one would need to see the fabric to be certain, and many of these vessels are unavailable for further study.⁴⁵ Of the vessels available for assessment, fabric analysis has concentrated on imports discovered by Petrie at Abydos, now located in various museum collections, and as such may not be a wholly representative sample of 1st Dynasty imports (Hennessy 1967: 52-60; Porat and Adams 1996). As a result, a number of studies like those of Helck (1971: 28-35) and Esse (1991: 104-7) focus on shape rather than the more useful criteria of ware or fabric.

⁴² Amiran notes that two probable sherds of the ware were found in the Abydos tombs of Djer and Djet, although the provenance of the former is vague (1974a: 66).

⁴³ A vessel with punctured decoration (UC 14516) might owe influences to the decorated style of Arad (Amiran 1974a: 67, pl. 28A), although it may have antecedents in Nubia. She also notes echoes of this style in the form of a painted jar from Elkab that should be dated to the early OK (1974a: 67, pl. 27B). This vessel was not examined by Amiran or the writer to confirm the fabric. On the basis of the shape the jar is locally made.

⁴⁴ Examples from northern Canaan are smaller and more biconical than their southern cousins (Esse 1991: 108-9).

⁴⁵ All the Abydos Wares examined by the author during the course of this study were made of non-Egyptian clays.

Despite the small corpus available for research, spectrographic analysis and petrography of available sherds from Abydos have identified two different fabrics linked to ware type that point to two separate origins. Hennessy's work isolated two broad fabric groups, one consisting mainly of red burnished (metallic) ware, and the other comprising almost entirely of high calcium LFPW (1967: 57-8). Porat and Adams characterised the first group as North Canaanite/Lebanon Metallic Ware (Group A) from the region of Mount Hermon (see also Greenberg and Porat 1996). The second was a local fabric from the Lower Galilee/Lake Kinneret area, in the vicinity of Beth Yerah (Group B) (Hennessy and Millett 1963; Kantor 1992: 19; Porat and Adams 1996).⁴⁶ This suggests that at least some of the LFPW from Abydos comes from Lower Galilee (Porat and Adams 1996: 104). Hennessy also stated that on the basis of his chemical analysis 'there are two and possibly three major groups of the 'foreign wares' from Abydos for which no parallels have been found in Palestine' (1967: 58). A further study, conducted by Esse and Hopke, revealed affinities between foreign 'lattice-burnished' vessels from Abydos and material from Tell Judeideh in the Amuq (1986: 337, fig. 31.3). While the sample size was small, as Esse and Hopke admit, this does suggest the possibility of an exchange mechanism involving northern Syria during the 1st Dynasty (1986: 337).

Some imported ceramics feature signs incised on to the surface pre- and post-firing, which relate to fabric type. Analysis of the potmarks on these imported vessels by Porat and Adams has yielded six critical findings (1996). Firstly, imported vessels of Group A fabrics (Lebanon/northern Israel) were incised with geometric shapes, which 'echo the marks applied at source in northern Israel or the Lebanon' (Porat and Adams 1996: 107). Secondly, imports made from Group B fabrics (Galilee/Kinneret) had a 'wholly Egyptian repertoire of signs'; indeed, these signs are also known from wet-incised Egyptian vessels (1996: 107). Thirdly, two Group A imports at other sites in Egypt (and even then the fabric on one, BM EA 33549, was a slight variation) had signs similar to those incised on Group B vessels.⁴⁷ A vessel from Tell Ibrahim Awad featured a group of signs also known from Egyptian wine jars (1996: 106-7). Fourthly, three Group A vessels were found in the Abydos tomb of Djer, indicating that products were being sourced from northern Canaan/Lebanon as early as his reign (1996: 104; Serpico and White 1996: 128). Fifthly, as different potmarks are found on vessels from different Egyptian sites and do not appear to be site-specific, the marks appear to relate more to the contents or source of the vessel (Porat and Adams 1996: 107).

⁴⁶ Note also that Porat and Adams focused their work on imported vessels with potmarks, so the range of their sample was small (1996).

⁴⁷ In respect of BM EA 33549, Dr Margaret Serpico suggested the signs may have been incised in Egypt during re-use of the vessel (Porat and Adams 1996: 106).

Sixthly and finally, the two regions represented by the imported ceramics may point to different products sourced from each area (1996: 107).

This last result has been the subject of further research by Dr Margaret Serpico who was not able to make definitive conclusions about the origin of their contents. However, her work did reveal that a Group A (Metallic Ware) vessel from the Abydos tomb of Djer (Ashmolean Museum E3160) (Fig. 3b) had contained coniferous *Pinaceae* resin and had been re-used for vegetable oil (Serpico and White 1996: 136-8). Other vessels contained residues consistent with animal fats or vegetable oils, but the extent to which this was the result of re-use of the jar was unclear (Serpico and White 1996: 132-9). An Abydos Ware jar from Abu Roash also contained a substance that has been identified as ‘resin’ (Klasens 1961: 113), but the scientific basis for this conclusion is unknown.

In the past, trade in coniferous resins had been assumed, but lacked a secure scientific basis (e.g. Amiran 1969b: 66; Hennessy 1967: 60). Serpico’s results support the concept that this was one of the products traded during the EB II. An inscription on two travertine jars from the reign of Anedjib mentioning ‘oil ‘cedar oil’ or ‘oil from the coniferous tree’, supports this finding (Kaplony 1963: 1.306; Ward 1991; Kantor 1992: 19). As some of the earliest attempts at mummification date to this era (Petrie 1901: 16-7), coniferous resins may have been imported for the aromatic and preservative qualities required for embalming procedures.⁴⁸

Re-use may be the reason why some imported pots from Saqqara have jar stoppers bearing the seal of Den (*contra* Amiran 1974b: 11-2). Described by Emery as ‘grey-black clay’ (Emery 1958: 61), these would be Nile mud stoppers like that of Boston MFA 13.2932 [53] (see Ch. 3.3.1), indicating re-use of the jar in Egypt after the original contents were emptied.

In summary, enough work has been done recently to suggest some sharper conclusions about EB II Egyptian-Levantine relations. Not only were the Egyptians sourcing products from different regions, but they were also actively involved in this activity beyond their borders. This included obtaining liquid commodities from southern Canaan, the Galilee region and northern Israel/Mount Hermon.

EB II Beth Yerah was evidently a pivotal town for the Egyptian state as an entrepôt for its products and for sourcing the commodities of northern Canaan/Lebanon. Moreover, jars from the region may not have been incised post-arrival in Egypt as previously thought (e.g. Porat and Adams 1996: 98). Possibly this was done in the Galilee area by agents of the Egyptian state, like Hem-Khasti, who were procuring and sending goods back home (Greenberg and Eisenberg 2002: 219-21). Greenberg and Eisenberg suggest that the

⁴⁸ Stager suggested that the jars may have contained wine (Marfoe 1987: 27; Stager 1992: 40), but given the size of other wine containers from tomb U-j, this seems unlikely.

exchange between Egypt and the region was reciprocal (2002: 220). Petrography points to the importance of northern Canaan, from the Lower Galilee to the Lebanese mountains, as a source of products desired by the Egyptians, which probably included coniferous resins. Products also continued flowing from central and southern Canaan, in addition to sources in northern Syria.

2.3.8. The role of Arad

Arad, located in the northern Negev, has hitherto been regarded as a significant site in EB II Egyptian-Levantine relations (Fig. 2). Excavated by Ruth Amiran in the 1960s, it furnishes a key to the synchronism of EB II-ED chronology (Amiran 1965; 1969a; 1978a; 1978b; Ben-Tor 1992: 122; Amiran and Ilan 1996). Moreover, it seems likely that Arad was a 'clearing house' for Feinan copper (Stager 1992: 35; Finkelstein 1995: 75; Adams 1999: 172-5, 189-92). For these reasons, it is worth assessing the role of Arad once again.

Amiran correctly identified a small quantity of Egyptian pottery in Arad Strata IV-II dated to the EB IB-EB II and Naqada IIIC/early 1st Dynasty. Although pointing to a direct relationship with Egypt, these ceramics are scattered stratigraphically and are small in number when compared to the quantity of imported vessels in Egypt (Amiran 1978a: pl. 55, 113-4). Even so, one vessel as well as the sherd of another similar jar (Amiran 1978a: 51, pls. 55.5-6, 114), must be regarded as out-of-context. The large storage jars found in Stratum II are best paralleled at Dynasty 0/EB IB Minshat Abu Omar (Kroeper 1986/7: 76-7, figs 57-73), equated with Arad Stratum IV (Amiran and Ilan 1996: 19). The Stratum II Arad temple findspot suggests that the utilitarian vessel was retained and may have acquired a secondary significance or usage (on this issue, see Ch. 8).⁴⁹ Other Egyptian sherds were found in the EB II silo area (Amiran and Ilan 1996: 94).

Egyptian imports at Arad include a fragmentary siltstone palette with possible traces of incised lines around the edge, a type common during the Naqada IIIB (Amiran 1978a: 55, pl. 68.21; Kroeper 1996: 74-9). This piece was found in Stratum II, synchronised with the mid- to late 1st Dynasty (Amiran 1978a: 115-6; 1978b). Notably, the date of the context is closer to the time when these palette types were produced in Egypt (Kroeper 1996: 74-9) when compared to other identical examples in EB III Canaan (see Ch. 8.3). This object may have been brought to Arad via the ED exchange network or at an earlier time (Mazar 1992: 136).

Other possible Egyptian items in EB II levels include beads of carnelian, faience, rock crystal and mother-of-pearl from the Red Sea (Amiran 1978a:

⁴⁹ Amiran remarks that of the other pieces from Stratum III and II 'one was found in public building 2159 of area T, and two were from the adjacent temples' (1978a: 51).

55). Of interest are two stone vessel fragments of unusually fine craftsmanship (Fig. 5c) (Amiran 1978a: 57, pl. 77.1-2). Amiran has described the stones as limestone and chalk, both available locally, but the shape and workmanship certainly speaks of technology imported from Egypt.⁵⁰ All are from Stratum II and their shapes can be paralleled in Egypt during the 1st–3rd Dynasties in stones like travertine, limestone and basalt (el-Khouli 1978: nos 2511, 3579, 4312-22, 4368-70, 5355; esp. Aston 1994: 118, no. 68 – 1st-2nd Dynasty).

The presence at Arad of large quantities of LFPW makes this site important for the synchronism of regional chronologies with those of Egypt. In view of the proximity of Arad to Egypt and of the similarities between the imported LFPW, it has long been assumed that many of the foreign jars in 1st Dynasty Egypt came from Arad (Hennessy 1967: 60) (see p. 41). Elemental analysis, however, indicates that at least some of the LFPW vessels in Egypt originated in northern Canaan (Porat and Adams 1996: 104). Hennessy also suggested that the relationship between Arad and Egypt was based partly on the trade in Dead Sea bitumen and cited in support of this suggestion ‘thick deposits of black material’ found in foreign jars from Abydos (1967: 60). Serpico’s work shows that this conclusion is erroneous; rather the black substance is a vegetal oil or resin (Serpico and White 1996). However, with its proximity to the Dead Sea, Arad was well placed to exploit bitumen and salt, in addition to acting as a way-station for the Feinan copper trade, en-route to Egypt. This provides a rationale for the appearance of Egyptian objects at the site.

The reasons for Arad’s decline at the end of the EB II are not clearly understood. Kempinski cites the gradual Egyptian control of Sinai copper resources during the latter part of the ED (Kempinski 1983: 239) as a key reason for this decline. Alternatively, Egypt’s growing sea-based relationship with Byblos may have severely affected the city’s economy (de Miroshedji 1989: 72). A combination of environmental factors, changing exchange patterns with Egypt (Mazar 1992: 141; Amiran and Ilan 1996: 147) and competition with other centres for the acquisition or distribution network of Feinan copper may have seen the city decline in importance.

2.3.9. The Sinai, turquoise and copper

Egypt used the ‘Way of Horus’, the coastal Sinai land route from the eastern Delta to southern Canaan, for many centuries. Remains along the north Sinai speak of an organised, state-sponsored network of settlements and way-stations to service burgeoning Egyptian activity in the Naqada III-ED (Oren 1989). Settlements appear to have been dependent on the Egyptian presence (Oren 1989: 401). Ceramic evidence includes not only vessels of a domestic

⁵⁰ It was not possible to verify the stone types.

character, but also large jars for the storage and transportation of goods (Oren 1989: fig. 7). Oren also noted that the ceramic assemblage did not seem to include any 2nd Dynasty pottery, but he was unable to ‘determine how late within Dynasty 1 ... the settlements in northern Sinai survive[d]...’ (Oren 1989: 400). Coniferous timber beams in Abydos tombs (see Ch. 2.3.6) show that trade by the sea route had begun by the early 1st Dynasty, so this route was not used as frequently as it had been in the past (Stager 1992: 40).

Further south it was a different story (Fig. 2). The region’s resources, notably turquoise and probably copper, were exploited from earliest times (Ch. 7.2.2). Archaeological evidence from south western Sinai is characterised by a predominant Canaanite material culture enjoying some contact with Egypt. Ceramics from many settlements are largely correlated to southern Canaan, with good parallels to Arad I-III (Beit-Arieh 1978: 10-11; 1986; Finkelstein 1995: 71). Sixteen of these EB II settlements had 1% of Egyptian pottery in their assemblages, including Site 1049 at Nabi Saleh, Site 1046/47 at Sheikh Mukhsen, and a cluster of other nearby locations (Beit-Arieh 1998; 2003 as summarised by Mumford 2006: 53).⁵¹ Parallels with southern Canaan and especially the Arad horizons reveal that Arad had a major interest in these settlements (Ben-Tor 1982: 8; Beit-Arieh 1986: 52; Ilan and Sebanne 1989; for a summary see Stager 1992: 34-5). The location and the evidence of copper working activity found near some of these settlements points to the active exploitation of nearby copper resources by their inhabitants who have been described as ‘local nomads’ (Beit-Arieh 1978: 11; Finkelstein 1995: 75). Imported Egyptian ceramics suggest a degree of communication between the two regions, but not Egyptian control or settlement activity (Amiran et al. 1973: 197; Beit-Arieh 1978: 10; 2003 summarised by Mumford 2006: 53).⁵² Some are sherds from 1st Dynasty storage jars (Beit-Arieh 1986: 38, figs 20-2).

However, whether Egypt also obtained copper from this region is unknown (Hauptmann et al. 1999: 4), as the precise origin of ED copper is still far from settled (Ogden 2000: 150-2). Eastern Desert mines, rather than imported ores, may have supplied local demand (Kaczmarczyk and Hedges 1983: 230-3; Ogden 2000: 150). Indeed, the region of Gebel Zeit has produced evidence of ED habitation sites, installations and detritus associated with copper working and mining (Tawab et al. 1990: 361-2). Perhaps local resources were supplemented by copper and turquoise obtained via Arad or through direct exchange with Sinai communities (Beit-Arieh 1974; 1981; 1984; Stager 1992: 35; *contra* Rothenberg and Glass 1992). Hauptmann

⁵¹ Sites at Nabi Saleh and Sheikh Mukhsen also yielded Egyptian faience and stone beads (Mumford 2006: 53).

⁵² Stager cites an Egyptian ceramic vessel from Sheikh ‘Awad (near Nabi Saleh) in the Sinai as a rare import in EB II Sinai (1992: fig. 7.30), but the vessel has closer affinities with the Late Predynastic pottery repertoire. The writer was unable to examine a copy of Beit-Arieh 2003 before this book went to press.

challenges this view (et al. 1999: 4), questioning the extent to which the Sinai played a role in the EB II Egypt/Canaan copper trade.

It is also possible that itinerant royal mining expeditions to the Sinai were also conducted (Wright 1985: 248). Early Dynastic inscriptions and scenes suggest that these expeditions sometimes resulted in military encounters between Egypt and Sinai tribespeople (Wright 1985: 248; Godron 1990a: 155-63, 195; Mumford 2006: 53).⁵³ Evidence from the south Sinai surveys indicates that a number of these sites were abandoned at the end of the 2nd Dynasty/EB II, perhaps the result of a more active Egyptian presence in the region (Mazar 1992: 117).

One ED object which has been analysed is a copper hammered bar from the tomb of Khasekhemwy at Abydos. Results showed high levels of arsenic in the composition, similar to residues tested from ingot moulds from Shuna in northern Jordan (Golden 2002: 229). While cautious in ascribing such an origin for the Abydos object, it is possible that the semi-processed product may have been imported (Golden 2002: 229).

The Feinan, continuing a tradition dating back to the settlement of Maadi (Hauptmann and Weisgerber 1987: 434; Pernicka and Hauptmann 1989), was another potential source of ED copper.⁵⁴ Upwards of '150,000-200,000 tons of slag from the early smelting activities around Feinan' were reported, indicating that 'presumably the largest volume of copper produced in the entire south eastern Mediterranean was produced in this area... from the Chalcolithic Period through nearly all of the succeeding ages up to the Roman Period' (Hauptmann and Weisgerber 1987: 419, 434).

EBA sites in the area of the Wadi Khalid in the Feinan were found to have nearly 5,000 tons of slag, a copper output representing several hundred tons (Hauptmann et al. 1999: 5). Recent excavations at Khirbet Hamra Ifdan in the Feinan unearthed 'the largest Early Bronze Age metal manufactory in the ancient Near East' (Levy et al. 2000). This represents a significant resource, even more so than Timna at this time, where the extent of EBA copper mining and processing is still contentious (e.g. Rothenberg and Glass 1992; Hauptmann et al. 1999: 14; but see EB II sites in the region with remains of a copper industry noted by Ilan and Sebanne 1989).⁵⁵

⁵³ The presence of Egyptian ceramic sherds at EB II sites near Serabit el-Khadim may also support the notion of direct Egyptian exploitation of these resources in the ED: Mumford 2006: 54.

⁵⁴ Copper at Maadi may have come from various sources: a copper object had a high nickel and arsenic content, suggesting an origin in Anatolia/Transcaucasia (Hauptmann 2006: 130).

⁵⁵ Note that copper ingots of similar shape to those found in the Timna region were also found at Maadi: the three ingots were all of a similar weight - 824g, 835g and 824g (Rizkana and Seeher 1989: 17, fig. 4.10-11, pl. 1.10-11).

Lead isotope analysis of copper objects from Arad points to the Feinan as the source of at least some Arad copper (Hauptmann et al. 1999: 13). Arad evidently held a pivotal position in the east-west copper trade from the Feinan, and hence on to Egypt (Figs 45-6) (Adams 1999: 189-92). This route may have included the Ashkelon region via Nahal Shoma and thence by sea to various destinations (including Egypt) during the EB I-II (Gophna and Milevski 2003; Adams 2006). Like Arad, Bab edh-Dhra was well-placed to benefit from a proximity to these resources. It may have been more economical for Egypt to acquire its copper through exchange mechanisms based at Arad rather than mount expensive mining expeditions to the Sinai which risked military confrontation with hostile bedouin.

By the early 3rd Dynasty, Egypt had established its own royal mining operations at Wadi Maghara (Gardiner et al. 1952: pl.1.1-2). In all likelihood, Feinan, the Sinai and the Eastern Desert were each exploited for copper during the ED (Adams 1999: 59-66; Aston et al. 2000: 62). Their role in the copper network depended on demand, available resources on the Egyptian side to mount expeditions, and access to sources of supply. Further analysis is required on copper samples to determine the origin of ED and OK copper, to settle questions of where Egypt sourced ores and hence the importance of regional copper trade systems (Ward 1991: 18).

2.3.10. Egyptian stone vessel imports in the EB II

A notable feature of the EB II archaeological repertoire is a marked increase in the number of imported Egyptian fine stone vessels. Egyptian stone vessels do not appear with anything like this frequency in Canaan during the EB IB. While the accident of discovery must always be considered, it is very significant that the large quantity of Egyptian/egyptianising material from EB IB southern Canaan does not include these high quality objects.⁵⁶

The range of sites at which stone vessels have been found stretch over most of EB II Canaan.⁵⁷ At Tel Erani, an Egyptian travertine jar fragment (IAA 1996-1808) from an open vessel was found in Stratum II dating to the

⁵⁶ Stone vessels were, however, found during the north Sinai surveys, dating to the Dynasty 0/1st Dynasty (Oren 1989: figs 8.16, 19, 21, 23, 27).

⁵⁷ This does not include the group of stone objects from Kabri, dated by Anati to the Protodynastic era (Praudnitz 1969; Anati 1963: 352). The objects have no real parallels in ED Egypt, but the unstratified nature of the context, 'accidentally uprooted by a tractor', is too insecure. Egyptian stone vessel fragments from the third millennium BC from Tell Rumeileh (Beth Shemesh) (Grant 1931: pl. 47.3; Grant and Wright 1938: pl. 54.65) were dated to the EB IB by Braun et al. (2001: 79), but the context of one vessel is uncertain, and the other has been variously dated to the Late Bronze Age (Lilyquist 1996: 161) and the Middle Bronze Age (Phillips 1992: 173).

EB II (for dating of the stratum, see Brandl 1989).⁵⁸ At EB II Tell el-Far'ah North, two Egyptian stone vessel fragments were found (Fig. 4a-b). A finely polished travertine bowl fragment (Reg. No. F.3935) (Fig. 4a) from Locus 605 has a smoothly polished interior and exterior; it was found on a floor.⁵⁹ The best parallels for this bowl type date primarily to the 1st Dynasty (Aston 1994: 110, no. 47). The other piece is a small body sherd of a thick-walled black and white porphyry jar that was probably spheroidal and dates somewhere between the late 1st and 3rd Dynasties (Fig. 4b) (Aston 1994: 131, no. 108). This piece, which lacks a registration number, was found in Locus 747 west and dates to the EB II.⁶⁰

In En Assawir Tomb 40, an Egyptian stone vessel was found along with an Egyptian siltstone palette with incised lines around the edge (Yannai 2002: 338, fig. 22.1:22). Tomb 40 is dated to the beginning of the EB II by the excavators (Yannai 2002: 334) but Hendrickx and van den Brink date the objects to the Naqada IIIA2-Naqada IIIB and thus declare them as heirlooms (Yannai 2002: 340-1). This is despite the fact that at least one similar jar is known from a Naqada IIIC2 context in Egypt, contemporary with the mid-1st Dynasty (Yannai 2002: 341). It can thus be argued that, given the date of the tomb (early EB II) that the heirloom factor in this case is slight. Six ED stone vessel fragments have been found at Tel Yarmuth (Figs 4c-5a) (Sowada n.d.). These pieces are all from bowls rather than jars, made from travertine, gabbro and slate. At Jericho, two quality limestone bowl fragments of likely Egyptian origin were identified in EB II levels (Fig. 5b) (Kenyon and Holland 1983: 554, nos 1619 and 1507).⁶¹ Two stone bowl fragments from EB II Arad have been noted already (Fig. 5c). At Ai, Egyptian stone vessels (mostly bowls) dating to the ED and early OK were found in the EB IIIB levels of the temple. Some would appear to have been part of the preserved EB II temple equipment (Amiran 1970a) (Figs 22-3). These very interesting pieces are discussed in detail in Chapter 4 below.

The sudden appearance of quality Egyptian stone vessels in the EB II is notable when compared to the apparent lack of ED ceramic imports, and the absence of stone vessels in the EB IB. Moreover, the shapes found are almost all bowls rather than jars that may have functioned as containers for luxury

⁵⁸ This fragment was examined by the writer in the IAA storerooms in 1996. The date of the context follows the original phasing of the site, but an EB II date for Stratum II is generally accepted by scholars (cf. Brandl 1989: 360-5).

⁵⁹ According to the field notes held in the École Biblique (Jerusalem) and registration card in the Rockefeller Museum, the object was found on 3/10/58 during clearance of a floor in Locus 605: *Tell el-Far'ah. Notes de Chantier 1958*.

⁶⁰ According to the registration card in the Rockefeller Museum, Jerusalem, the object was found on 6 September 1960 'sous 747 w'. The field notes do not specifically mention the object: *Tell el-Far'ah. Notes de Chantier 1960*.

⁶¹ Both were found on the tell: one from Trench EIII-IV.H (No. 1619) and the other from Trench EIII-IV.Gi (No. 1507).

commodities. The appearance at Tel Yarmuth of stone vessels associated with an EB II cult structure (de Miroschedji 1988: 88, pl. 48:9-12; Sowada n.d.), suggests that these vessels were special diplomatic or trade gifts from Egypt to the local elites, regarded as sufficiently important to receive such presents. Stone bowls fragments found elsewhere in EB II Canaan suggest that they arrived not as containers for some precious commodity, but as an item in their own right. As will be seen in Chapter 8, Egyptian stone vessels in the Levant can be interpreted as Egyptian endowments to a temple, prestige items of elite gift exchange, or trade items.

Many scholars have proffered the discovery at Byblos of an Egyptian vessel with the name of the 2nd Dynasty king Khasekhemwy as evidence of the recommencement of formal relations between Egypt and this city at this time (e.g. Dunand 1939: 26-7, no. 1115; Smith 1971: 167; Callaway 1978: 54; Saghih 1983: 130-1; Marfoe 1987: 27). As this piece was found in a rubbish heap, its value is significantly lessened and, like many Egyptian stone vessels found in the Levant, it may be a later arrival, perhaps from a stone vessel repository (Saghih 1983: 130-1; Ward 1991: 12-3). In any case, imported cedar and other coniferous timbers used in Abydos royal tombs of the ED, indicate that this sea-borne trade in Levantine timbers was well under way at the beginning of the Dynastic age, hence this vessel may have originally arrived 'in context'. A significant quantity of 1st-3rd Dynasty stone vessels have been found in Phase K at Byblos, although not in levels synchronised with the ED period (see Ch. 5.3.1). These vessels evidently arrived some time during the third millennium BC.

As will be seen from the discussion in Ch. 8.2, hard stone vessels were a prestige item in Egypt. They appear at a range of sites in the EB II-III Levant, in contexts indicating that they were royal/diplomatic gifts or trade commodities linked to state-sponsored exchange activity, particularly where they bear hieroglyphic inscriptions (de Miroschedji 1998: 29; Sowada n.d.). The presence of these objects in EB II Canaan, combined with the withdrawal of Egypt's physical presence at the beginning of the ED, signals this shift in the political and economic dynamics of the region.

2.4. Conclusion

Egypt's relationship with the Levant during the fourth and early third millennium BC was motivated by the increasing need of local elites to acquire and display exotic imports to symbolise and legitimate their political power (Hassan 1988: 169). These efforts were governed by a number of factors. They include the increasing level of control exercised by Egyptian elites over economic activity, the production centres of particular products, the physical geography of the regions where these were acquired, and the emergence of urban complexes and concomitant elites in Canaan with whom the Egyptian state had to deal (Ben-Tor 1986: 8-9).

As a result, Egypt's contact with its immediate north eastern neighbours in the EB I-II underwent several significant changes (summarised by de Miroschedji 1998). During the early EB IB/Naqada IIC-D2, the relationship between Canaan and Egypt is characterised as one of 'increasingly complex exchange and trade relations' (Levy et al. 1997: 6; Stager 1992). The relationship was based on a series of land-based trading networks designed to supply elites with exotic products not available in Egypt. Products from Mesopotamia and beyond, such as lapis lazuli, arrived via low-level sea-based networks.

By the Naqada IIIA2, the quest by elites to acquire foreign products saw the importation of cedar pieces from the north and wine from the hill country of central and southern Canaan and the Jordan Valley. Imported pottery in both Canaan and Egypt increases, attesting to a more intense relationship between the regions.

Links reached their peak in the late EB IB/Naqada IIIB-C1, when the relationship previously based on an exchange of goods underwent another fundamental shift. A more intense core/periphery association develops, with the emerging Egyptian state spreading its control from the eastern Delta to southern Canaan (*h3st*), where it established a major settlement at Tell es-Sakan and a series of outposts elsewhere to manage the acquisition of goods such as copper, wine, asphalt, olive oil and timber. This shift involved the movement of Egyptians into southern Canaan at the behest of the nation-building leadership, creating strong administrative centres at Tell es-Sakan, En Besor and possibly also Lod and Tel Ma'ahaz. This presence was at its strongest under Narmer. The impact of this activity on the comparatively underdeveloped urban complexes of the Levant may have been profound, bringing with it political structures and economic organisation, thus accelerating the development of complex society in the EB II.

At the beginning of the EB II, another shift occurs and the Egyptian presence retreats. The shift probably began under Horus Aha and was completed by the reign of Djer. It is marked by the appearance of Abydos Ware in Egypt, and a decline in Egyptian material in Canaan. A greater focus on domestic affairs, combined with a growing level of confidence on the part of emerging local elites, may have resulted in Egypt withdrawing its presence 'on the ground' in Canaan. This growing assertiveness on the part of elites may have resulted in sporadic military activity with Egypt, as suggested by the fragmentary textual record.

Concomitant with these political factors, the need for heavy coniferous timbers like cedar, required for the construction of royal monuments, transformed exchange patterns at the beginning of the 1st Dynasty. The establishment of the sea route at the beginning of the 1st Dynasty along the coast to Syria provided a more efficient means of transportation that did not require a network of land-based outposts to manage the acquisition and shipment of goods. This same link may have facilitated the commodities trade

in Canaan, particularly from the north, by shipping products from coastal anchorages rather than transporting products overland to Egypt by donkey caravan. The relative lack of Egyptian ceramics across the Sinai land bridge during the latter part of the ED is probably the result of this change in transport mechanisms. Recent analysis on ED timbers reveals that this large-scale sea-borne timber trade continued in the 2nd Dynasty.

During the ED era, the Egyptian state enjoyed direct contact and sourced products from a range of different locations (Fig. 45). Byblos emerges as the probable entrepôt for the coastal timber trade and other exotic products like lapis lazuli. The importation of cedar, seen in small quantities during Naqada III, begins on a significant scale under Horus Aha, with large timber beams for construction transported via the coastal maritime route from the forests of the northern Levant. While ED timber studies are in their infancy, it is possible that much of the large timber used in construction of royal mastabas is coniferous wood. Moreover, these links to the north may have extended as far as the Amuq, with the importation of commodities in Abydos Ware jugs.

However, despite the growing importance of the coastal sea route, Egypt's links with Canaan were still significant, with commodities still coming from the region (Fig. 46). In particular, Arad emerges as a strong player in the Feinan and Sinai copper trade, and in the market for other commodities. Egypt's growing appetite for copper during the ED period required a large and reliable supply that could be obtained more easily through exchange via the Arad network rather than through costly Egyptian mining expeditions to the Sinai. Sinai copper and turquoise resources were not under Egyptian control but rather exploited by local tribespeople with strong links to Arad.

However, a growing level of Egyptian interest in northern Canaan is attested from the ceramic evidence. Abydos Ware from Djer's reign onwards reveals that a systematic trade with northern Canaan existed without the Egyptian presence in the south so evident in the EB IB. Beth Yerah in the Galilee emerges as an important centre not only for the manufacture of commodities contained in Abydos Ware jugs, but for product procurement further north. A physical Egyptian presence is based there which dates to the middle of the 1st Dynasty, and possibly into the 2nd Dynasty. As a result, the official Egyptian 'reach' extends even further north with the import of commodities in Metallic Wares jugs from the region of northern Israel/Mount Hermon, where *Pinaceae* resin was obtained. The Egyptian demand for coniferous resins may have been linked to emerging techniques of mummification, for which the aromatic and preservative qualities of coniferous resins were highly prized. Egyptian officials sent these commodities to Egypt using a combination of donkey caravans and sea links, using coastal way-stations.

The wine and olive oil industry of the hill country in Canaan continued supplying the Nile Valley, but in much reduced quantities for wine at least, owing to the commencement of viticulture in Egypt during the ED era.

The acquisition of Sinai turquoise (and possibly copper) was probably maintained using a combination of the Arad network and exchange with local tribespeople. Early Dynastic elites may have begun directly sourcing turquoise via itinerant expeditions to Wadi Maghara. Military skirmishes with hostile Sinai inhabitants in the ED era helped Egypt establish the confidence to exert direct, on-going royal control over these assets by the early 3rd Dynasty. In addition, the large copper resources of the Feinan, in addition to local mines in the Eastern Desert, probably continued supplying Egyptian needs for the ore.

Little is known about what Egypt sent to the Levant in return. Egyptian objects in EB II Canaan are poorly documented; in all likelihood, more exists in the archaeological record than has been identified thus far. Durable prestige objects such as palettes, stone vessels and 'trinkets' like beads appear, and some pottery is mentioned in the literature. As with the EB III (Ch. 7), Egyptian exports may have been of a perishable nature, like linen, oil or grain.

The emergence of complex society in EB II Canaan and the withdrawal of the Egyptian presence placed the region on a stronger political footing with Egypt. The relationship returned to one based on commodity exchange, product exchange and this time, diplomacy with local elites. This change in the status of each region is visible in the decline of the Egyptian presence in Canaan combined with the appearance of imported fine Egyptian stone vessels. Used on the one hand in the diplomatic act of royal commerce, as royal 'gifts', they are also outward symbols of peer parity between Egyptian and Canaanite elites. Contact with Egypt also provided local elites with a form of status and display involving Egyptian objects. This more formal relationship is also reflected in the appearance of Egyptian officials with responsibility for administering affairs with her north eastern neighbours.

A growing body of archaeological evidence points to a continuation of exchange networks with Canaan and the northern Levant during the 2nd Dynasty. Analyses conducted on a small number of 2nd Dynasty wood samples reveal the continuation of coniferous timber imports, particularly on a large scale during the reign of Khasekhemwy. It is possible that a number of stone vessels were sent from Egypt to Canaan as elite gifts during this period. Textual material also points to the arrival of tribute or produce from Canaan. Further 2nd Dynasty evidence is required to illuminate this shadowy period, but the fragmentary evidence shows that Egypt was still an economic player in the region.

During the ED period, the large-scale acquisition of imports, especially heavy timbers by sea, required significant resources and high levels of political organisation and control (Marfoe 1987: 28; Wilkinson 1999: 157). It will be seen in the next chapters that the pattern of relations established during the EB II continued during the EB III. Indeed, from the perspective of Egyptian contact with the region, the situation in the EB III should be seen as an extension of the EB II.

3. A CORPUS OF IMPORTED MATERIAL IN EGYPT

3.1. Introduction

Old Kingdom imports fall into two main types: ceramics and raw materials crafted into objects in Egypt. The quantity and variation is relatively small, with a stock repertoire of artefacts appearing at a handful of key sites.

This catalogue outlines Levantine imports identified from published reports and other sources. It should not be regarded as exhaustive. Turquoise objects are not included as the stone's origin was close to Egypt and is well-known. Secondly, silver objects are not included as these are probably made of locally derived silver, and without analysis, it cannot be assumed that the metal was imported (see Ch. 7.2.3). Thirdly, only those pieces identified by unambiguous typological parallel or analysis have been included. More objects, particularly those of imported timbers, doubtless await proper identification in museum collections and unpublished archaeological notes around the world.

The evidence is presented by site, beginning with the Delta (Fig. 6), then divided into ceramics, or the raw material of which an object is made. For ceramic fabric descriptions, see Ch. 6.10.2, unless noted in the text below. Each item is highlighted with a Catalogue Number in brackets. Standard curatorial information and data concerning the provenance is also noted. The material is summarised in the concluding section.

3.2. Kom el-Hisn

The OK town of Kom el-Hisn is located in the Western Delta (Kirby et al. 1998). The remains are mainly 5th-6th Dynasty, with 4th Dynasty occupation also extant (Wenke et al. 1986; Wenke 1988:13; Cagle 2003). A Combed Ware fragment may have been found: of 10,000 ceramic sherds processed 'possibly one or two may have been from an import with the typically engraved decoration of the necked jars found also in Giza, by Reisner ... [but] since ... only a very small fragment was found even this is rather unsure' (K. Kroeper, pers. comm. 23/2/94). The only other imported object was a used obsidian core that had evidently been utilised in blade production (Wenke et al. 1988: 27-8), which was not analysed further to determine point origin (Wenke pers. comm.).

3.3. Giza

Many OK Giza tombs were excavated decades ago by Reisner, Junker, Hassan and others (summarised in Reisner 1942: 20-6 and Lehner 1997), so the

modern scholar is faced with all the problems of archaeological method and publication that these older reports present.⁶²

3.3.1. Ceramics

Following Helck (1971) and Reisner and Smith (1955: 73-6), the following corpus divides the imported ceramics into two shapes. Type 1 comprises two-handled storage jars (hereafter ‘Combed Ware’), and Type 2 embraces one-handled jugs. The latter, while small in number, are further divided into six sub-types owing to the number of variations in surface finish and shape. Chapter 6 discusses the group in detail.

While many Combed Ware pots are located in the Boston Museum of Fine Arts, others are now lost or unavailable for study.⁶³ Had every jar been accessible, a corpus division by ware would have been preferable, but as less than half were available, the group is sub-divided chronologically, following Reisner and Smith (1955: 73-6), and Helck (1971: 29-33). Even so, this posed problems because many of Reisner’s tombs are unpublished, preventing any re-assessment of the date.⁶⁴ Furthermore, the basis on which Helck re-dated the corpus to the reign of specific kings was hard to verify. As far as possible, contexts and dates were re-examined based on a combination of criteria such as associated objects, inscriptions (if any) and tomb architecture, following Reisner (1942), Reisner and Smith (1955: 73-6) and Cherpion (1989). Rather than attempting to attribute every vessel to the reign of a king, dates are stated in broad terms only, unless evidence allows a more precise dating.

Not all pots in the Boston Museum of Fine Arts had MFA inventory numbers, but many had Reisner’s registration numbers; these are included to allow comparison with the original publications. Vessels were compared to the illustrations in Reisner’s publications, and re-drawn where necessary if the published drawing lacked accuracy. Several errors were also noted in Reisner

⁶² Many tombs excavated by Reisner are unpublished. His field notes and photographs, lodged at the Museum of Fine Arts, are slowly coming to light by way of on-line publication. The Reisner Archive can be found at <http://www.mfa.org>. This material was not fully accessible when most of the research for this book was completed.

⁶³ Reisner (1942: ix) noted that Junker’s objects were divided between Leipzig, Hildesheim, Vienna and Tübingen, but enquiries to these museums yielded only one vessel. Perhaps the ceramics were kept in Egypt, being too fragmentary to warrant sending to European museums. A number of other vessels published by Reisner and Smith (1955: 73-6) likewise could not be located despite global enquiries.

⁶⁴ Reisner’s dating of the Giza tombs was established using the date of the tomb’s architecture and its position in the cemetery, combined with any inscriptions (Reisner 1942: 27-36). This method is not without its critics, and since then a number of alternative dating schemes have been proposed. For one of the most recent attempts, including summaries of previous work, see Cherpion 1989.

and Smith's list (1955: 73-6) when individual pots were compared against the original publications; these are corrected.

(a) Type 1 (Reisner and Smith's Group B:LIV)

Reisner and Smith categorised Combed Ware (their Type B-LIV) as flat-based ovoid jars with two vertical handles in the middle of the body, a narrow concave neck and an everted roll rim (Reisner and Smith 1955: 74-6). However, this broad description masks real differences of size, fabric, surface finish and even shape. All known vessels at time of writing are included.

[1] *Reisner Reg. 13-11-57* (not illustrated) Base fragment of a jar. Whereabouts unknown. D. base said to be 8.6cm.

Prov.: Uncertain; apparently from G 4140 A. Reisner reported that it was 'found in the debris of the street on east...certainly thrown out from shaft A' (1942: 464-5).

Date: Probably early 4th Dynasty - Khufu to mid-Khafre (Reisner and Smith 1955: 75); Khufu (Helck 1971: 30, 33).

Published in: Reisner 1942: 464; Reisner and Smith 1955: 75.

[2] *Reisner Reg. 13-11-61* (Fig. 7) Upper body of a jar. Whereabouts unknown. Ht approx. 31.0cm D. rim 14.6cm D. max. 36.0cm.

Prov.: Tomb of Princess Meritetes, Tomb G 4140. Plundered. At the bottom of shaft G 4140 A and the burial chamber off the shaft, the remains of many ceramic pots were found, which included sherds of three Combed Ware vessels (Reisner 1942: 462-3).

Date: Early 4th Dynasty as per above.

Published in: Reisner 1942: 463, fig. 279; Reisner and Smith 1955: 75.

[3] – [4] *Reisner Reg. 13-11-62 and 13-11-63* (not illustrated) Fragments of two jars, [3] with a 'ring of incised marks around the base of the neck evidently imitating cord' (Reisner and Smith 1955: 75). Whereabouts and dimensions unknown.

Prov. and Date: Tomb G 4140, as per [2].

Published in: Reisner 1942: 463; Reisner and Smith 1955: 75.

[5] *Boston no number/Reisner Reg. 13-11-64* (Fig. 7) Nearly complete jar now in fragments, exterior coated with a fine lime wash fired very pale brown (10YR 7/3).⁶⁵ Exterior horizontally and vertically combed. Combed Metallic Ware Variant 1. Ht 43.0cm W. 25.6cm D. rim 9.5cm D. base 11.0cm.

⁶⁵ All Munsell readings throughout this book are taken from *Munsell Soil Colour Charts* (revised ed., New Windsor, 1994).

Prov.: Partially robbed tomb of Prince Sneferu-seneb, Tomb G 4240. Precise findspot not stated, but the shaft (G 4240 A) was partially excavated by Schiaparelli but not exposing the entrance of the burial chamber (Reisner 1942: 466). The vessel was found either in the unexcavated debris of the lower reaches of the shaft, or the burial chamber itself, probably the latter.

Date.: Early 4th Dynasty (Khufu-early Khafre); Reisner and Smith dated the jars from Khufu to mid-Khafre (1955: 75-6); Helck to the reign of Khufu (1971: 31-3). Cherpion dated the tomb to the reign of Sneferu (1989: 236).

Published in.: Reisner 1942: 468, fig. 282; Reisner and Smith 1955: 75-6.

[6] *Boston no number/Reisner Reg. 13-11-65* (Fig. 7) Base and rim of a jar, fine lime wash on exterior fired brown (7.5YR 5/4). Horizontal and vertical combing on the surface. Combed Metallic Ware Variant 1. D. rim 7.2cm.

Prov.: Tomb G4240 A, as per **[5]** above.

Date.: As per **[5]** above.

Published in.: Reisner 1942: 468; Reisner and Smith 1955: 75.

[7] *Boston no number/Reisner Reg. 13-11-106* (Fig. 7) Fragmentary jar possibly with a fine wash on exterior, fired red (2.5YR 5/6). Horizontal and diagonal combing on the surface. Combed Metallic Ware Variant 1. Ht 42.6cm W. 25.2cm D. base 11.8cm.

Prov.: Tomb G 4440. No name of owner preserved, but Reisner thought 'by the portrait head, [the tomb] undoubtedly [belonged to] a brother of Prince Sneferu-seneb' (1942: 475). Plundered. The exact findspot of these three pots is not known. Reisner lumped all the pottery from three contexts together: the burial chamber, the shaft (G 4440 A) and a dump consisting of 'thieves' debris thrown out from [the] shaft in street east of the shaft' (sic) (1942: 477).

Date.: Probably early 4th Dynasty; dated by Reisner and Smith from Khufu to mid-Khafre (1955: 76). Helck dated it to the reign of Khufu (1971: 31-3).

Published in.: Reisner 1942: 478, fig. 287, pl. 59b; Reisner and Smith 1955: 76.

Comment.: As with **[1]**, the uncertainty surrounding the precise findspot is problematic, as if the vessels came from the street dump, their association with the tomb is questionable.

[8] *Boston no number/Reisner Reg. 13-11-107/KS 1000* (Fig. 7) Jar with uncoated surface, exterior fired red (10R 5/6) and same colour throughout section. Combed Metallic Ware Variant 2. Vessel now in fragments. Ht 35.0cm W. 22.0cm D. base 12.0cm.

Prov. and Date.: Tomb G 4440, as **[7]** per above.

Published in.: Reisner 1942: 478; Reisner and Smith 1955: 76.

Comment.: A bag of unnumbered fragments in Boston was identified as Reisner's 13-11-107 by a process of elimination.

[9] *Boston no number/Reisner Reg. 13-11-108* (Fig. 7) Fragments of a jar, base the only diagnostic in Boston. Exterior appears to be coated with a wash fired pale yellow (2.5Y 7/4), but this may be a natural coating of the clay caused by the firing process. Combed Metallic Ware Variant 1 or 3. Ht 42.0cm W. with handles 27.0cm D. rim 11.0cm.

Prov. and Date: Tomb G 4440, as per [7] above.

Published in: Reisner 1942: 478; Reisner and Smith 1955: 76.

[10] – [11] *Junker Inv. G4760A/II/1 and G4760A/II/2* (not illustrated) Two jars, one tall narrow jar with combing on the surface [10] and another jar [11]. Both mended from fragments. Whereabouts and ware unknown. Ht 60.0cm and approx. 38.0cm.

Prov.: Tomb G 4760 (VII n). Plundered. No name of owner found. In summarising finds from the shaft (G 4760 A) and burial chamber, Reisner reported ceramics in the thieves' debris, but further information as to the precise findspot is not noted.

Date: Early 4th Dynasty; dated by Junker to the early 4th Dynasty (1929: 238-41). Reisner and Smith place it from Khufu to mid-Khafre (1955: 76), and Helck to the reign of Khufu (1971: 31-3).

Published in: Junker 1929: 234, fig. 13, no. 16-17; pl. 43b centre and right; Reisner 1942: 485; Reisner and Smith 1955: 76.

Comment: Reisner and Smith (1955: 76) stated that four pots were found in this tomb, but Junker lists only two. An earlier Reisner publication also lists only two vessels (1942: 485), so Reisner and Smith are probably in error.

[12] *Boston 37.2729/Reisner Reg. 38-8-11* (Pl. 2) Jar mended from fragments. Possible traces of a cream lime wash on exterior, moderately fired brown (7.5YR 5/6) and the same colour through section. Surface Combed in horizontal strokes, with light traces of vertical combing. Combed Metallic Ware Variant 1. Ht 38.2cm W. 21.4cm W. with handles 28.8cm D. rim 8.4cm D. base 10.8 cm.

Prov.: Tomb G 5020, annex-shaft. No name of owner preserved, but on the basis of a reserved head, Reisner identified the tomb as belonging to the wife of Prince Sneferu-seneb. In the shaft he 'found a mass of weathered pottery of the same types as those found in row 4, and these certainly were intrusive in G 5020-annex-shaft. They probably come from row 4 and perhaps from G 4240' (1942: 470).

Date: Early 4th Dynasty; dated by Reisner and Smith from Khufu to mid-Khafre (1955: 76). The dating is likely correct but the relationship to Sneferu-seneb is questionable. Helck dated it to the reign of Khufu (1971: 31-3).

Published in: Reisner 1942: 470; Reisner and Smith 1955: 76, pl. 51c/2.

Comment: The intrusive and weathered nature of the ceramics means that the pottery cannot be directly associated with this tomb. Yet the jars from this context in Boston did not appear particularly weathered. An early 4th Dynasty

date for these vessels is probable, given the proximity of other 4th Dynasty mastabas from which these may be throw-outs.

[13] *Boston 37.2725/Reisner Reg. 35-8-8* (Fig. 8, Pl. 1) Jar restored from fragments with incised/impressed lines around the base of the neck imitating rope. Traces of a light lime slip or wash on exterior, lightly combed in horizontal strokes only, fired pale red (10R 6/4). Added plastic decoration above the handles consisting of a broken wavy line. Vessel completely mended, possibly Combed Metallic Ware Variant 1. Ht 46.0cm W. with handles 36.0cm W. without handles 28.2cm D. rim 11.4cm D. base 12.4cm.

Prov. and Date: As for **[12]** above.

Published in: Reisner 1942: 470, fig. 283; Reisner and Smith 1955: 76, pl. 51c/1.

[14] *Boston 37.1319/Reisner Reg. 34-6-17j* (Fig. 8, Pl. 1) Jar with small applied double bow on shoulder. Traces of a lime slip on the surface, fired reddish brown (5YR 6/4) to red (10R 5/6). Horizontal and diagonal combing over the upper body, with horizontal combing only over the lower body. Completely mended from fragments, no fresh section visible. Probably Combed Metallic Ware Variant 1. Ht 41.5cm W. 22.8cm W. incl. handles 30.0cm D. rim 9.2cm D. base 10.0cm.

Prov.: Tomb G 7330 A. No name of owner preserved. Tomb plundered.

Date: Early 4th Dynasty: Khufu to Khafre according to Reisner (1942: 115); Khufu according to Helck (1971: 31-3). Further research is required on this tomb to fully assess its date.

Parallels: Potmark - Dunand 1939: 389, fig. 297; Marquet-Krause 1949: pl. 70.547 and pl. 83.1195, 1407, 1252, 758; Tufnell 1958: pl. 18.76.

Published in: Reisner and Smith 1955: 76, fig. 80, pl. 53d; Mazzoni 1985.

[15] *Boston no number/Reisner Reg. 13-10-29* (Fig. 8) Jar, hard fired, exterior surface uncoated and fired light yellowish brown (10YR 6/4), section almost completely dark grey in colour (2.5Y 4/1). Vertically hand smoothed on interior and finished with a serated tool, suggesting the lower body was made in a mould. Combed Metallic Ware Variant 1. Ht 37.5cm W. 18.0cm W. with handles 24.8cm D. rim 7.4cm D. base 8.5cm.

Prov.: Tomb G 4340. No name of owner preserved. Plundered. Ceramics were found at the bottom of the shaft (G 4340 A) and in the burial chamber, but the precise findspot of this vessel is not stated (Reisner 1942: 473-4).

Date: Early 4th Dynasty. Khufu to mid Khafre according to Reisner and Smith (1955: 76); Khufu according to Helck (1971: 31-3). A label with the vessel says mid-late 4th Dynasty. A reserved head was also found in this mastaba. On the basis of associated pottery, a 4th Dynasty date is likely.

Published in: Reisner 1942: 474, fig. 285; Reisner and Smith 1955: 76, fig. 96.

Comment: This jar was found with two one-handed jugs **[57-58]**.

[16] *Junker Inv. G4750/II/1* (not illustrated) Fragments of a jar with horizontal and vertical combing on the surface. Whereabouts uncertain. Dimensions unknown.

Prov.: Tomb of Akhi, Tomb G 4750 (VIIs). Probably plundered. From Shaft G 4750A or the burial chamber at the bottom, but precise findspot not otherwise stated.

Date: Early 4th Dynasty (see Junker 1929: 238-40), or Khufu to Khafre in Reisner and Smith's dating scheme (1955: 76).

Published in: Junker 1929: 241; Reisner 1942: 485.

Comment: This vessel is not on Reisner and Smith's list (1955: 76); it was probably erroneously added to the list of vessels from G 4760.

[17] *Reisner Reg. 13-12-2* (not illustrated) Fragments of a two-handled jar. Whereabouts and dimensions unknown.

Prov.: Tomb G 4430. No name of owner preserved. Plundered. Sherds were found at the bottom of shaft G 4430 A and in the burial chamber, but further detail of where these fragments were found is not noted (Reisner 1942: 487).

Date: Early 4th Dynasty. Khafre to Neferirkare according to Reisner and Smith (1955: 76). Khafre according to Helck (1971: 31-3). The mastaba and pottery are not sufficiently published to assess the date, but a reserved head was found in the tomb, suggesting the early to mid-4th Dynasty.

Published in: Reisner 1942: 487; Reisner and Smith 1955: 76.

Comment: The shaft also contained a fragmentary seal bearing the name of Khafre (Reisner 1942: 487).

[18] *Boston 20.1881/Reisner Reg. 14 -1-82* (Fig. 8) Jar with a cream slip and pot mark. Combed decoration on exterior. Almost complete. Nature of potmark unknown. Ht 32.0cm W. 17.8cm W. incl. handles 24.8cm D. rim 7.8cm D. base 8.6cm.

Prov.: Tomb G 4530 A. No name of owner preserved. Plundered. Pottery was found in shaft G 4530 A and in the burial chamber, including this near-complete vessel, but Reisner does not state its precise findspot (1942: 490).

Date: 4th Dynasty. Khafre to Neferirkare (Reisner and Smith 1955: 76); Khafre according to Helck (1971: 31-3).

Published in: Reisner 1942: 488, fig. 297a; Reisner and Smith 1955: 76.

Comment: The writer did not see this vessel as it was on long-term loan to the Oriental Institute.

[19] *Boston 19.1456/Reisner Reg. 14-1-10* (Fig. 9, Pl. 2) Jar with horizontal combing over the entire surface. Surface uncoated (*contra* Reisner 1942: 494) and fired weak red (10R 5/4). Homogenous dark brown fabric, with a grey core streak and sporadic calcareous inclusions < 1mm. Arrow-shaped potmark on shoulder incised before firing with a comb-like tool. Dark Brown Ware

Variant 1. Missing part of the neck and rim. Ht 36.0cm W. 19.4cm W. including handles 26.1cm D. rim 7.6cm D. base 10.8cm.

Prov.: From Tomb G 4630 A of Medew-nefer. Plundered. Found in shaft G.

Date: 4th Dynasty. Khafre to Neferirkare (Reisner and Smith 1955: 76); Khafre according to Helck (1971: 31-3). Ceramics from the tomb, particularly the bowls, suggest the early 4th Dynasty (cf. Reisner 1942: fig. 299, Reg. 14-1-17 with Faltings 1989: fig. 6.a.119; Reisner 1942: fig. 299, Reg. 14-1-7 with Stadelmann and Alexanian 1998: fig. 3.15, DAS 25-1; Reisner 1942: fig. 299, Reg. 14-1-2 with Ginter et al. 1998: fig. 41.5).

Published in: Reisner 1915: 36, fig. 15; Reisner 1942: fig. 299, pl. 63d; Reisner and Smith 1955: 76, fig. 97.

[20] *Boston 20.1889/Reisner Reg. 14-1-14* (not illustrated) Jar, uncoated exterior fired pale yellow (2.5Y 7/3), horizontal combing on the surface. Reisner stated that a slip was present (1942: 494), but this was not seen. Probably Combed Metallic Ware Variant 3. Completely mended - no fresh section visible. Ht 41.0cm W. 23.0cm.

Prov. and Date: Tomb G 4630, belonging to Medew-nefer. Plundered. This vessel was found in the burial chamber off shaft G 4630 A. Date as for [19].

Published in: Reisner 1942: 494, pl. 61d; Reisner and Smith 1955: 76.

[21] *Boston 20.1914/Reisner Reg. 14-3-67* (Fig. 9) Jar with deep and defined horizontal combing, moderate firing, exterior coated with a light slip fired red (2.5YR 5/6). Vessel mended. Ht 23.2cm W. 16.0cm W. incl. handles 20.0cm D. rim 7.0cm D. base 8.4cm.

Prov.: Tomb G 4620, owned by Ka-nofer. Plundered. Reisner reported 'flint flakes and potsherds' in the burial chamber (1942: 508) which probably included this vessel.

Date: 4th Dynasty. Jar variously dated from Khafre to Neferirkare (Reisner and Smith 1955: 76) and Khafre (Helck 1971: 31-3).

Published in: Reisner 1942: 508, fig. 312, pl. 69h; Reisner and Smith 1955: 76.

Comment: This vessel was quite unlike the others in ware and surface finish but there was no clear section from which to examine the fabric.

[22] *Khafre-ankh Reg. 98/11/22* (not illustrated) Jar with an incised potmark on the shoulder between the handles in the shape of a squashed letter 'D'. Upper body diagonally and horizontally combed. Mended. Surface finish, Dimensions and fabric unknown.

Prov.: Burial chamber (KhI), tomb of Khafre-ankh, Giza (Tomb G 7948). The chamber was re-used, but not before the New Kingdom. The jar was 'found over the stones covering the original burial' (Kormysheva 1999: 31, 37) and probably belongs to the original burial equipment of the owner.

Date: 4th Dynasty, probably late, dated on the basis of the ceramics. Dr D. Raue (pers. comm. 7/7/99) described the Meydum bowl sherd as a late 4th Dynasty type.

Published in: Kormysheva 1999: 37, pl. IIb; Wodzińska 2003: pl. 33, fig. 2.

Comment: The report of this excavation mentioned another possible imported vessel, described as 'one jar with handles, fragments of the bottom and neck' in the burial shaft of Herenka (KhII) (Kormysheva 1999: 37).

[23] – [24] *Junker Mastaba VIII*n (not illustrated) Fragments of two Combed Ware jars. Whereabouts and dimensions unknown.

Prov.: Shaft of Tomb G 4860 n; name not preserved.

Date: 4th Dynasty. Reisner and Smith dated this jar from Khafre to Neferirkare (Reisner and Smith 1955: 76). Helck dated it to the reign of Khafre but the basis of his dating is unclear (1971: 31-3).

Published in: Junker 1929: 248-9; Reisner 1942: 501; Reisner and Smith 1955: 76.

[25] *Boston 47.1661/Reisner Reg. 32-12-18* (Fig. 9, Pl. 3) Jar with thick lime wash/slip on exterior fired pale yellow (2.5Y 8/3); potmark above one handle and horizontal combing. Vertical combing on shoulder only. Combed Metallic Ware Variant 1. Missing a large piece from the rim. Ht 38.0cm W. 20.0cm W. with handles 27.6cm D. rim 9.0cm D. base 10.7cm.

Prov.: Tomb G 2140, name of owner not preserved. Plundered. The jar was found in the burial chamber at the bottom of shaft G 2140 A.

Date: Reisner and Smith dated the jar to Khafre to Neferirkare (1955: 76). There were no associated finds. Helck dated it to Khafre (1971: 31-3).

Published in: Reisner 1942: 437, fig. 256; Reisner and Smith 1955: 76.

Comment: This was the only object found in the burial chamber. Lucas tested the contents of this jar, finding 'fragrant resin from a coniferous tree' (Reisner and Smith 1955: 75; Lucas and Harris 1989: 320).

[26] *Nezlet Batran* (Fig. 9) Jar with vertically and horizontally combed surface. Traces of a lime wash on exterior. Arrow-shaped pot mark above one handle. Ht 30.0cm.

Prov.: Burial of a male, tomb uninscribed. Southern edge of mastaba field at Giza.

Date: Mid-4th to 5th Dynasty.

Published in: Kromer 1991: 67, pl. 23.1, 38.4.

[27] *Reisner Regs 15-1-9, 15-11-36, 15-11-37a* (not illustrated) Fragments of a jar, possibly as many as three. Whereabouts and dimensions unknown.

Prov.: Tomb G 4940 A and B, mastaba of Seshem-nefer I (Cherpion 1989: 226).

Date: Probably 4th Dynasty. Reisner and Smith dated the jar from Khafre to Neferirkare (1955: 76), and Helck to the reign of Khafre (1971: 31-3). Cherpion places it in the reign of Djedefre (1989: 226). This tomb was not sufficiently published to assess the date further.

Published in: Reisner and Smith 1955: 76.

Comment: Reisner and Smith regarded fragments from 'B' as possibly intrusive (1955: 76).

[28] *Reisner Reg. 29-3-256* (Fig. 9) Upper part of a jar. Whereabouts unknown. Ht 21.5cm.

Prov.: Tomb G 7650 C, shaft from tomb of Meritites.

Date: 4th Dynasty. Reisner and Smith dated the vessel from Khafre to Neferirkare (1955: 76). Helck dated it to Khafre (1971: 31-3) and a 4th Dynasty is more likely.

Published in: Reisner and Smith 1955: 76, fig. 97.

[29] – [30] – [31] *Reisner Reg. 36-12-15 and Reisner Reg. 36-12-16* (Fig. 10) and *Reisner no number* (not illustrated) Fragments of three jars with a Combed surface. Whereabouts unknown. Hts approx. 44.0cm and 38.0cm and dimensions unknown for third vessel.

Prov.: Tomb G 7560 B.

Date: Reisner and Smith dated the jar from Khafre to Neferirkare (1955: 76). Helck dated the jar to the reign of Khafre (1971: 31-3). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, fig. 97, pl. 51a.

Comment: Reisner noted possibly a fourth Combed Ware jar from this tomb.

[32] *Reisner Reg. 28-5-190* (not illustrated) Fragments of a jar. Whereabouts and dimensions unknown.

Prov.: Tomb G 7550 B, belonging to Duaenhor.

Date: Reisner and Smith dated the jar from Khafre to Neferirkare (1955: 76). Helck dated the jar to the reign of Khafre (1971: 31-3). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76.

[33] *Boston 20.1903* (Fig. 10, Pl. 3) Jar with surface combed in diagonal strokes, which was then combed horizontally. Lime wash over body, surface where visible fired reddish brown (5YR 5/4). Combed Metallic Ware Variant 1. Almost complete vessel, fabric hard to see. Ht 38.2cm W. 21.4cm W. with handles 29.0cm D. rim 9.3cm D. base 10.6cm.

Prov.: Tomb G 1031 A.

Date: 4th–early 5th Dynasty (?). Reisner and Smith dated the jar from Khafre to Neferirkare (1955: 76). Helck dated the jar to Khafre (1971: 31-3). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, fig. 96, pl. 51d.

[34] *Junker no number* (not illustrated) Jar. Location and dimensions unknown. *Prov.:* Tomb G 4970 A, mastaba of Nesu-nefer. Found in rubble in north shaft. *Date:* Possibly mid-4th-early 5th Dynasty (?). Junker dated the mastaba to the 5th Dynasty (1929: 119), while Cherpion places it in the reign of Khafre (1989: 226). Reisner and Smith dated the jar from Khafre to Neferirkare (1955: 76). Helck dated the jar to the reign of Khafre (1971: 31-3). *Published in:* Junker 1926: 75; Junker 1928: 192; Junker 1929: fig. 14.11, pl. 43b 1/1; Junker 1938: 166; Reisner and Smith 1955: 76.

[35] *Reisner Reg. 15-12-67* (not illustrated) Jar with a combed surface. A plaster stopper was probably found with this vessel which bore 'the imprint of a saucer (upside down) on lower surface'. Whereabouts unknown. Ht 38.0cm W. 20.0cm W. with handles 24.0cm D. rim 10.0cm D. base 8.5cm. *Prov.:* Tomb G 4410. Plundered. The burial chamber had many sherds on the floor, which included this jar (Reisner 1942: 515). This mastaba also showed evidence of later reconstruction (Reisner 1942: 108, 514). *Date:* Possibly 5th Dynasty: objects in the shaft and burial chamber included a sealing with the Horus name of Userkaf (Reisner 1942: 514-6). Helck dated the jar to Khafre (1971: 31-3) but the deposit's mixed nature makes this difficult to sustain. *Published in:* Reisner 1942: 516; Reisner and Smith 1955: 76. *Comment:* Owing to the re-building (and re-use?) of this tomb, a wide date embracing the mid-4th Dynasty to end of the 5th Dynasty is possible for this vessel.

[36] *Leipzig Inv. 1484* (Pl. 4) Jar mended from fragments and missing a handle. Horizontal rilling visible on surface. Clay described as red with a grey core. Ht 34.0cm D. 22.0cm. *Prov.:* Mastaba excavated by Steindorff in 1903-6, but no further details. *Date:* Steinmann gives the jar a 6th Dynasty date, but the basis of this is unknown. Indeed, Steinmann's parallel (Reisner and Smith 1955: 76, Giza 1031 A, fig. 96) is dated to Khafre-Neferirkare. *Published in:* Steinmann 1998: 162, Cat. No. 553, pl. 123.1. *Comment:* The vessel was destroyed in WWII (Steinmann pers. comm. 13/7/04).

[37] *Hassan no number* (Fig. 10) Jar with surface combed horizontally. Two "X" marks incised on shoulder. The jar contained a substance of 'calcium carbonate and ... nitrogenous organic matter, but in slightly larger proportion to [61] below. There was not any evidence of fatty matter, but there was a small proportion of resins-like material' (Lucas in Hassan 1936: 145-7). Whereabouts unknown. Ht approx. 37.0cm.

Prov.: Burial chamber, Mastaba of Shaft 294 of unnamed woman. Undisturbed.
Date: Mid-5th Dynasty. Helck dated it from the mid-late 5th Dynasty (1971: 31-3). The tomb contains no inscriptions, but was constructed after the tomb of Re-wer, and probably after that of Mersu-ankh, located next to Re-wer's (see the plan in Hassan 1941). Re-wer was an official of Neferirkare and possibly also Sahure (Allen 1992: 14), placing his tomb in the early part of the 5th Dynasty. The tomb of Mersu-ankh was built after that of Re-wer's, with inscriptions from the former indicating that he knew Re-wer, but certainly outlived him (Hassan 1932: 104-17). This could place Mersu-ankh's tomb as late as the reign of Niuserre, if one accepts a short reign for Reneferef. A mid-5th Dynasty date for the tomb is therefore possible, a date supported by pottery from the burial chamber.⁶⁶

Published in: Hassan 1936: 145-7, fig. 173.4, pl. 47.1 and 3.

Comment: This vessel was found with [61].

[38] *Boston no number/Reisner Reg. 13-1-506* (Fig. 10) Narrow jar with horizontal combing on uncoated surface, high narrow neck. Pot mark of an arrow incised on exterior, made by using a 3 or 4 pronged comb before firing. Dark Brown Ware Variant 1. Vessel now in fragments. Ht approx. 33.0cm D. rim 6.7cm D. base 8.5cm.

Prov.: Tomb G 2175 B, belonging to Khnum-nefer.

Date: Reisner and Smith date the vessel from the end of Neferirkare to the end of the 5th Dynasty (1955: 76). Likewise Helck dated the jar to the mid-late 5th Dynasty (1971: 31-3). On the other hand, Cherpion dated the mastaba to the reign of Menkaure (1989: 226). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, fig. 96, pl. 51i.

Comment: The pot mark was similar to Boston 19.1456 [19].

[39] *Boston 47.1662/Reisner Reg. 40-5-7* (Fig. 10, Pls 4-5) Jar with a pot mark on shoulder, in the form of an arm flexed at the elbow or a branch bent at right angles, incised pre-firing. Horizontal combing over the upper body; vertical combing added over the lower body. No slip or wash on the surface, exterior fired weak red (10R 5/4) to reddish brown (5YR 5/4). Vessel now missing a handle. Coarse Combed Ware. Ht 31.0cm W. 18.8cm D. rim 8.2cm D. base 9.9cm.

⁶⁶ Compare Hassan 1936: fig. 173.1-2 with Reisner and Smith 1955: fig. 82, Reg. 14-2-120; the flat-based bowl in Hassan 1936: fig. 174.5 is an earlier version of 6th Dynasty flaring bowls: Reisner and Smith 1955: figs 105, Reg. 12-12-555 and 114, Reg. 36-4-13. The Meydum bowls date to the 5th Dynasty: see the discussion of Meydum bowl types in Ballet 1987: 1-16 and Op de Beeck 2000, and types illustrated in Reisner and Smith 1955: 81, fig. 110.

Prov.: Tomb G 2350 L.

Date: Reisner and Smith dated the vessel from the end of Neferirkare to the end of the 5th Dynasty (1955: 76) a date supported by Helck (1971: 31-3). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, fig. 97, pl. 52f.

Comment: Reisner and Smith reported that this vessel still contained evidence of its original contents but it was not tested (1955: 75). The fabric and ware is similar to the jar from Matmar [95], as is the date.

[40] *Reisner no number* (Fig. 11) Jar with combed decoration on exterior. Whereabouts not known. Ht approx. 45.0cm.

Prov.: Tomb G 1224 A.

Date: Reisner and Smith dated the vessel from Neferirkare to the end of the 5th Dynasty (1955: 76), a date supported by Helck (1971: 31-3). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, fig. 97, pl. 51b.

[41] *Reisner Reg. 39-5-47* (not illustrated) Lower part of a jar with combed surface. Whereabouts and dimensions unknown.

Prov.: Tomb G 2430, belonging to Nihotep-ptah.

Date: Mid-late 5th Dynasty. Reisner and Smith dated the vessel from Neferirkare to the end of the 5th Dynasty (1955: 76), a date supported by Helck (1971: 31-3). Cherpion dates it to the reign of Isesi (1989: 229). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, pl. 51f.

[42] *Boston 37.2724/Reisner Reg. 35-7-41* (Fig. 11, Pls 4-5) Jar with a vertical seal impression on the shoulder. Lime wash on exterior, fired light reddish brown (5YR 6/3). Diagonal and horizontal combing on the surface. Seal impression consists of four quadrupeds, probably lions, walking *tête-beche*, two complete and two partially visible. The animal's head faces to the front, the mouth is open and all four short legs are visible; the tail curves over its back. At the top are two complete and two partial horizontal lines; below, the animal stands on a row of dots. Probably Combed Metallic Ware Variant 1. Vessel restored, no section visible. Ht 49.5cm W. 32.7cm W. across handles 40.5cm D. rim 13.0cm D. base 15.3cm.

Prov.: Tomb G 2370 B, belonging to Senedjem-ib Inty, vizier of Isesi.

Date: Reisner and Smith note that the tomb owner probably died in the reign of Unas (1955: 75-6; Smith 1971: 186). Likewise Helck dated the jar to the mid-late 5th Dynasty (1971: 31-3).

Parallels: Parallels for the seal impression are known from EB Jericho (Sellin and Watzinger 1913: 97, fig. 66), EB III Numeira (Lapp 1989: 7-9) and Byblos (Dunand 1958: pls 195.18016; pl. 196.11572 [Byblos Saghieh Phase

KIII], 11298 [Phase KIV] and 12613 [Phase KIV]; Lapp 1989: 7-9; Lapp 1995: 47). See also parallels cited in Reisner and Smith 1955: 75.

Published in: This vessel has been extensively published, but see Reisner and Smith 1955: 76, fig. 98, pl. 53a, b; Lapp 1989: 7-9, fig. 7.

[43] *Leipzig Inv. 3153* (not illustrated) Jar with horizontal combing on the surface, white slip on the exterior. Mended from fragments. Ht 52.0cm D. 28.0cm.

Prov.: Mastaba of Kedfi, excavated by Junker 1926 (Junker 1943).

Date: Late 5th Dynasty or later (Steinmann 1998: 163).

Published in: Steinmann 1998: 162-3, Cat No. 554.

Comment: Steinmann notes that this jar was found in the tomb of Kedfi, but Junker makes no mention of the vessel in the publication. The vessel was destroyed in WWII and no picture exists (Steinmann pers. comm. 13/7/04).

[44] – [45] *Reisner no number* (not illustrated) Fragments of two jars. Whereabouts and dimensions unknown.

Prov.: Tomb G 2450.

Date: Dated by Reisner and Smith to the 6th Dynasty (1955: 76). Helck also dated the jar to the 6th Dynasty (1971: 31-3). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, pl. 51h.

[46] *Reisner no number* (Fig. 11) Fragmentary jar with combed decoration on exterior. Ht approx. 55.0cm.

Prov.: Tomb G 2379 A.

Date: Dated by Reisner and Smith (1955: 76) and Helck (1971: 31-3) to the 6th Dynasty. Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, fig. 97, pl. 53e.

[47] *Boston 37.2723/Reisner Reg. 35-7-7* (Fig. 11, Pl. 5) One-handled jar with horizontal combing over the surface, with sporadic vertical combing marks. Hard domed plaster stopper *in situ*, mended from fragments; possible pot mark on shoulder incised before firing consisting of a vertical line with a slight hook at the top end. Exterior coated with a lime wash, fired red (10R 5/6) where surface visible. Pot completely mended from a number of fragments, so fabric not possible to determine. Red Ware? Ht 42.0cm Ht with stopper 47.1cm W. 30.4cm D. base 13.5cm.

Prov.: Tomb G 2387 A.

Date: Reisner and Smith dated this jar to the 6th Dynasty (1955: 76), as did Helck (1971: 31-3). Further research is required on this tomb to fully assess its date.

Published in: Reisner and Smith 1955: 76, fig. 98; pl. 51e.

[48] *Itjef, No. 1* (Fig. 11) Combed Ware jar with a tall, narrow profile similar to those from Matmar [95] and Edfu [100]. Ht 37cm.

Prov.: Mastaba of Itjef. Found in the bottom of Shaft 9.

Date.: Junker dated the tomb to the 6th Dynasty (1928: 192). Reisner and Smith (1955: 76) dated the jar similarly. Helck dated it to the reign of Khafre (1971: 31-3).

Published in.: Junker 1928: 192; Junker 1929: fig. 14, no. 12; Junker 1951: 102-3, no. 1, fig. 39; Reisner and Smith 1955: 76.

Comment.: In their list of Combed Ware vessels, Reisner and Smith describe this example as coming from Junker G I-S (1955: 76), but according to Junker's publication, no such vessel was found in this tomb (Junker 1929: 181). Rather, the vessel should be identified as coming from the tomb of Itjef in which such a vessel was found.

[49] *Boston 13.2928/Reisner Reg. 12-12-572* (not illustrated) Jar with a plaster stopper *in situ* that extends over the top of the shoulder, with presumably traces of the original contents still inside. Complete. Horizontal combing on the surface, in addition to encrustations. Red Ware, but no clear section visible. Ht with stopper 48.8cm W. of body 30.8cm W. with handles 36.0cm D. base 14.1cm.

Prov.: Tomb G 2381 A, tomb of Impy, also known as Mer-Ptah-ankh-mery-re, a senior official who held the title 'Overseer of all the Works of the King' under Pepy II (Smith 1971: 186-7).

Date.: Late 6th Dynasty, reign of Pepy II, on the basis of the seal impression on [53] which was found in the same tomb (Reisner and Smith 1955: 76; Helck 1971: 31-3).

Published in.: Reisner and Smith 1955: 54, 76, pl. 52e, d.

[50] *Boston 13.2929/Reisner Reg. 12-12-569* (Pl. 6) Tall jar with a square-edged, slightly overhanging rim, very light horizontal combing on the surface and incised marks around the base of the neck imitating rope. Exterior fired yellowish red (5YR 5/6) to reddish brown (5YR 4/3) with traces of lime wash on lower body. Complete. Red Ware, but no clear section visible. Weight 5.188kg (11lbs 7oz). Ht 48.3cm W. 28.0cm W. with handles 36.0cm D. rim 13.2cm D. base 12.5cm.

Prov. and Date.: Tomb G 2381 A, as for [49] above.

Published in.: Reisner and Smith 1955: 54, 76, fig. 96, pl. 52a right.

[51] *Boston 13.2930/Reisner Reg. 12-12-570* (Fig. 14, Pl. 6) Jar with a square-edged, slightly overhanging rim, very faint horizontal combing on the surface and incised marks around the base of the neck imitating rope. Uncoated exterior fired dark red (2.5YR 4/6), with some black patches. Complete. Red Ware, but no clear section visible. Ht 49.3cm D. rim 12.0cm D. base 15.0cm.

Prov. and Date.: Tomb G 2381 A, as for [49] above.

Published in: Reisner and Smith 1955: 54, 76, fig. 96, pl. 52a left.

Comment: This jar was very similar in ware to [50].

[52] *Boston 13.2931/Reisner Reg. 12-12-573* (Fig. 11, Pl. 6) Jar with a plaster stopper in situ. Combed decoration on the exterior, surface fired reddish brown (5YR 4/6) with traces of a leaching on the lower body. Some encrustations. Red Ware, but no clear section visible. Complete. Weight 7.27kg (16 lbs). Ht with stopper approx. 43.5cm W. of body approx. 30.5cm W. with handles approx. 38.0cm D. base approx. 13.0cm.

Prov. and Date: Tomb G 2381 A, as for [49] above.

Published in: Reisner and Smith 1955: 54, 76, pl. 52e right.

[53] *Boston 13.2932/Reisner Reg. 12-12-571* (Pl. 6) Jar with a stopper of dark grey Nile mud in situ, now cracked. No signs of combing or slip on the surface, signs of leaching on lower body. Exterior fired dusky red (2.5YR 4/4) to dark red (2.5YR 4/6). The stopper bears a seal impression of Pepy II, read by Reisner and Smith as 'King of Upper and Lower Egypt, Pepy [II] Horus [name] Neter-khaw', rest of text too fragmentary to read. Red Ware, but no visible section. Vessel complete, but the inscription on the mud stopper is now too faint to read. Ht with stopper 49.0cm W. of body 29.3cm W. with handles 36.5cm D. base 13.5cm.

Prov. and Date: Tomb G 2381 A, as for [49] above.

Published in: Reisner and Smith 1955: 54, 76, pl. 52g, d.

Comment: The stopper bearing the seal of Pepy II is made of Nile mud, indicating that the vessel was sealed in Egypt. This suggests that the jar was re-used or at least re-sealed after its arrival, so the jar's current contents may not be the same as when the jar was exported.

[53a] *Combed Ware sherds, various numbers* (not illustrated) Fourteen sherds (two among them are uncertain), two rims, one handle and 12 body sherds (Wodzińska 2007:311).

Prov. and Date: Giza Plateau Mapping Project settlement site, various contexts (several came from the surface - see Wodzińska 2007: 315), 4th Dynasty.

Published in: Wodzińska 2007: 311-13, 315.

Comment: Apart from the Elephantine sherds, these are the only known Combed Ware fragments from a settlement context. Wodzińska suggests that the presence of the sherds here indicates that the vessels were stored in advance of their interment, and were 'associated with the production and transport of olive oil from the Levantine region' (2007: 313, 18). It is not known how many vessels are represented by these sherds.

(b) Other vessels

Fragments of another jar without a number were identified in Boston but did not match any vessels from Reisner and Smith's list (see 1955: 75-6). The vessel was made of hard Dark Brown Ware Variant 2, and the accompanying label said 'out of BG 437'. The provenance was assumed to be Giza but this could not be confirmed, nor could its number within Reisner's catalogue.

(c) Type 2 (Reisner's Group B:LIIIa and b)

The less common form is a one-handled jug or jar with a tall neck, everted rim and body tapering to a narrow flat base. A single flattened strap handle is present from the top of the shoulder to upper part of the neck or rim. Reisner divided the group into two types: Group B:LIIIa, 'a one-handled pitcher with an open spout' of which only two examples are known, and Group B:LIIIb, long-necked jugs with a single handle 'joining either at the rim or some distance below the rim' (Reisner and Smith 1955: 72). In reality, the group can be divided into at least six types on the basis of shape, and further subdivided on the basis of ware. Types 2a-e are noted here; Type 2f was found at Meydum (see Ch. 3.7). A greater range of surface treatments, decorative elements and shapes are present in this group than with Type 1.

The vessels belong to the long tradition of Abydos Ware jars dating back to the 1st Dynasty (Porat and Adams 1996; see Ch. 2.3.7). However, these jugs for the most part are very different to Abydos Ware. Most of the examples noted below date to the 4th Dynasty, with the small jugs disappearing by the early 5th. A large one-handled jar comes from the mid-5th Dynasty [61].

Type 2a.i: Narrow necked jars with a trefoil mouth and a flat base (with two sub-types (i) and (ii) on the basis of ware). Handle from rim to shoulder.

[54] *Giza no number* (Fig. 12) Squat globular jug with a flat strap handle from shoulder to rim, trefoil mouth and a small flat base. Ware, fabric and whereabouts unknown. Ht approx. 16.0cm.

Prov.: Tomb G 1412 A.

Date: Probably 4th Dynasty. Dated by Reisner and Smith from Khafre to Neferirkare (1955: 74) but was unverifiable owing to the lack of research conducted on the tomb. Helck dated the vessel to the reign of Khafre (1971: 30, 33).

Parallels: Kenyon 1960: 65, fig. 60.33; Marquet-Krause 1949: 28 pl. 67.42.776.

Published in: Reisner and Smith 1955: 74, fig. 95, pl. 51g.

Comment: This jug could not be located by Reisner. The best parallels for the shape come from Canaan, making this a probable import from the region. Unfortunately the ware is not known and Reisner's published photo is wanting in quality.

Type 2a.ii: As for Type 2a.i, but ‘Reserve Slip Ware’ (see Ch. 6).

[55] *Boston 20.1904* (Fig. 12, Pl. 7) Jug with trefoil mouth, squat body with wide flattened shoulders, strap handle from top of shoulder to rim. Wide, shallow horizontal marks on upper body, described as marks produced by ‘a cream coloured slip which was wiped off in horizontal lines around the shoulder...producing striations in the soft clay’ (Reisner and Smith 1955: 73). Very fine buff coloured clay, with few large inclusions. Some calcareous inclusions visible. Cream-coloured slip on the surface. Fine Yellow Buff Ware. Minor chipping on the rim, but otherwise complete. Ht 30.0cm W. 23.5cm D. rim 6.0cm, with spout 7.2cm D. base 10.0cm.

Prov: The vessel was found in an undisturbed burial chamber on the eastern side of a coffin containing a woman’s body, Tomb G 1233 Annex A. Name not preserved.

Date: Early 4th Dynasty. Reisner and Smith dated it from Khufu to Khafre (1955: 74). Helck dated the jug to the reign of Khufu (1971: 30, 33).

Parallels: Braidwood 1937: 7.

Published in: Published widely, including Reisner 1942: fig. 95, pl. 53f; Reisner and Smith 1955: fig. 234c; Goldman 1954: 73; Kantor 1992: fig. 6.7.

Comment: This vessel was found with Boston 20.1905 [59], the only other object in the burial chamber. It is a unique import, arriving in the early 4th Dynasty, possibly during the reign of Khufu (Reisner and Smith 1955: 74). Identified as an example of Reserved Slip Ware, the best parallels come from Cilicia and northern Syria (Reisner and Smith 1955: 73).

Type 2b: Necked jugs, with an ovoid body, handle from rim or (just below) to shoulder. The type is similar to ED imported Red Polished Ware jars (Ch. 2.3.7) and as such belongs to the end of the sequence in Egypt.

[56] *Reisner Reg. 1711/4 and 1711/12* (Fig. 12) Jug with a red burnished surface. Handle from neck to shoulder. Reisner noted the redder colour of the fabric compared to other vessels, described as ‘special ware with white specks in the fracture’. Probably Slipped Metallic Ware Variant 2. Whereabouts not known. Ht 32.8cm W. 20.4cm.

Prov.: Giza Tomb G 7000 X (Hetepheres). Found in the burial chamber.

Date: 4th Dynasty, reign of Khufu.

Published in: Reisner and Smith 1955: 64, fig. 61, pl. 46d.

Comment: Reisner’s fabric description suggests that this is Metallic Ware.

Type 2c: Cream Burnished Ware necked jugs, with an ovoid body; plastic rope decoration around the base of the neck. Handle from rim or just below to the shoulder. The vessels are all coated with a creamy white slip, and some are burnished. Placement of the handle from neck to shoulder also occurs in the EB I (Ben-Tor 1992: fig. 4.4, A27, B17) and EB II (such as at Beth Yerah in

Mazar et al. 1973: pl. 5.15-9). Plastic rope decoration, consisting of an applied horizontal strip of clay with diagonal incisions at the base of the neck, appears on a range of forms in the EB II-III (see Ch. 6.8).

Type 2c.i

[57] *Boston 20.1899/Reisner Reg. 13-10-25* (Fig. 12, Pl. 8) Ovoid jug with applied rope decoration around base of the neck. Slip on exterior (now worn) fired light yellowish brown (10YR 6/4), burnished. Fabric reddish brown (5YR 4/4) with grey core. Conspicuous sub-angular calcareous inclusions <0.5-1mm, sporadic rounded sand, medium to fine dark brown mineral inclusions, and grog in a dark red (2.5YR 4/8) matrix. Mended from fragments and missing the rim and upper handle portion. Slipped Metallic Ware Variant 1. Ht 27.5cm W. 17.5cm D. base 3.5cm.

Prov.: Tomb G 4340. Ceramics were found at the bottom of the shaft (G 4340 A) and in the burial chamber, but the precise findspot of this vessel is not otherwise stated (Reisner 1942: 473-4).

Date: Label with the vessel says mid-late 4th Dynasty. On the basis of associated objects, an early 4th Dynasty date is likely. Reisner and Smith dated the jar to the first half of the 4th Dynasty, Khufu to mid-Khafre (1955: 74); Helck placed it in the reign of Khufu (1971: 29, 33).

Published in: Reisner 1942: 474, fig. 285; Reisner and Smith 1955: 64, fig. 95, pl. 53f.

Comment: Found with a Combed Ware jar [15], and [58] below.

[58] *Reisner Reg. 13-10-68* (Fig. 12) Thin-walled jug missing the rim, handmade and finished on a wheel, with a raised ridge at base of neck, worn yellow (10YR 7/6) slip on a reddish yellow (7.5YR 6/8) fired exterior. Fabric a porous orange yellow with sporadic calcareous inclusions <1mm-2mm., with some fine dark angular stone and very fine rounded quartz sand. Faint light brown core streak in section toward base. Sandy/gritty texture to touch. Currently unmended. Slipped Metallic Ware Variant 1. Ht approx. 34.0cm W. approx. 22.4cm D. base 7.0cm.

Prov. and Date: Giza Tomb G 4340, as for [57] above.

Published in: Reisner 1942: 474, fig. 285; Reisner and Smith 1955: 74, fig. 95, pl. 53c.

[59] *Boston 20.1905* (Fig. 13, Pl. 8) Jug with applied rope decoration around the base of the neck. Handle joined from below rim to shoulder. Burnished cream coloured slip on exterior surface. Fabric reddish brown (5YR 4/4) with conspicuous white calcareous inclusions <1mm., grog, some rounded quartz sand and angular black stone temper <1mm. Rim chipped and some flaking of the surface, but otherwise complete. Slipped Metallic Ware Variant 1. Ht 32.8cm W. 21.5cm D. rim 6.2cm D. base 6.5cm.

Prov.: Undisturbed burial chamber, Giza Tomb 1233 Annex A ‘found west of coffin upset by collapse’. Name of owner not preserved. Found with [55].

Date: Probably early 4th Dynasty. Reisner and Smith date it from Khufu to mid-Khafre (1955: 74), and Helck to the reign of Khufu (1971: 29, 33).

Published in: Reisner 1942: 410, fig. 234c; Reisner and Smith 1955: 74, fig. 95, pl. 53f 1/2.

Comment: Older published drawings of this jug are incorrect.

Type 2c.ii: As above but with a burnished red wash on the exterior.

[60] *Reisner Reg. 32-12-13* (Fig. 13) Jug with applied rope decoration on shoulder, with burnished red wash or slip on exterior. Handle probably joined below rim. Fabric reddish with white calcareous inclusions. Mended from fragments. Whereabouts unknown. Most likely Slipped Metallic Ware Variant 2. Ht approx. 23.6cm W. approx. 14.0cm.

Prov.: In debris of burial chamber, Giza Tomb G2170 A. Name of owner not preserved. Plundered.

Date: 4th Dynasty. Reisner and Smith dated the vessel from Khafre to Neferirkare (1955: 74). Helck dated the jug to the reign of Khafre (1971: 29, 33). The remaining pottery was insufficiently published to verify the date.

Published in: Reisner 1942: 449, fig. 274; Reisner and Smith 1955: fig. 96, pl. 53f 1/4.

Type 2d: Large ovoid jars with incised lines around the neck, and a wide flat base. Short handle from rim to the base of the neck.

[61] *Hassan no number* (Fig. 13) Large jar with a narrow concave neck, flaring rim, round body tapering to a broad flat base. Small loop handle from shoulder to rim. Four horizontal lines incised across neck. Ware described as ‘red-brown ware; smooth surface with white wash’ (Hassan 1936: 145). A copper lid was *in situ*. ‘Calcium carbonate, nitrogenous organic matter and fatty matter’ were noted inside the vessel (Hassan 1936:145). Not seen by the writer; whereabouts unknown. Ht approx. 40.0cm W. 30.0cm D. rim 12.5cm (to edge of handle) D. base 15.5cm.

Prov.: Burial chamber, Mastaba of Shaft 294.

Date: Mid-5th Dynasty. See discussion of the date of [37] above.

Parallels: Ben-Tor 1975: 66, pl. 31:4, fig. 8:4; Stewart 1939: 162-8, ‘Vounos jar’, which is a narrower type; Tufnell 1958: pl. 62.285-6 (possibly an example with ledge handles); Holland 1977: 51, fig. 4.9 dated to the Third Dynasty of Ur (c. 2113-2015 BC).

Published in: Hassan 1936: 145-6, fig. 173.3, pl. 47.3; Amiran 1973: fig. 3c.

Comment: The jar was found with [37] above. The ovoid shape and incised lines around the neck are difficult to parallel precisely. This decorative element is rarely seen in the south, but is found to the north at Ras Shamra on large jars dating to Ras Shamra III A2 (de Contenson 1969: 70, fig. 14.10). The feature also appears on the neck of large vessels at Korucutepe in the EB

IIIA Phase E (c. 2300-2150 BC) (Van Loon 1978: 72, pl. 122A). Amiran noted broad parallels with the Vounous jar and another vessel from Tell es-Sweyhat, suggesting the Giza vessel came from northern Syria (Amiran 1983). She dates the vessel to the late 4th Dynasty (1983: 94), but this cannot be supported on the basis of the context and other grave goods found with it. On the other hand, Professor Tony Sagona from the University of Melbourne was of the view that the jar was neither from Anatolia or north Syria (pers. comm. 1995). The fabric description of 'red-brown ware' is too vague to be of value, although Tufnell does note 'red [ware], grey core, traces of lime wash and combing' on no. 286 cited above. Ultimately only examination of the fabric would settle the question of provenance, but typological parallels suggest a north Syrian origin.

Type 2e: Tall, one-handled jar with horizontal lines on exterior surface, possibly a variation of the 'reserved slip' technique visible on [55]. Of the surface finish, it is stated that '... although the horizontal lines sink into the clay in wide stripes, there is a closer resemblance to reserved-slip than there is to the combed surface decoration [known from combed ware jars]' (Reisner and Smith 1955: 74). Strap handle from top of shoulder to rim; wide base.

[62] *Giza no number* (Pl. 7) Jar with plaster stopper on rim and neck. Light horizontal combing on lower body; deeper horizontal grooves on upper body. Whereabouts unknown. Ht approx. 27.0cm.

Prov.: Burial chamber, Giza Tomb G 1220 A.

Date: Neferirkare to the end of the 5th Dynasty (Reisner and Smith 1955: 74). Helck dated it from the mid to late 5th Dynasty (1971: 29, 33).

Parallels: Dunand 1939: pl. 160, no. 3828; de Contenson 1989: 320-1, fig. 4A (Ras Shamra III A1) (citing Shaeffer).

Published in: Reisner and Smith 1955: 64, pl. 52 b and c; Esse 1991: 112.

3.3.2. Raw materials

[63] *Cairo JE 53271-3* (Pl. 9) Twenty silver anklets or bracelets, bearing an inlaid design of butterflies of carnelian, turquoise and lapis lazuli. Imitation pieces of lapis were made of plaster and painted dark blue. Dimensions unknown.

Prov.: Found in a bracelet box, burial chamber, Queen Hetepheres, Tomb G 7000 X.

Date: Reign of Khufu, 4th Dynasty.

Published in: Reisner and Smith 1955: 20, 43-4, pl. 38.

[64] (Fig. 15) Approximately four barrel and one tubular bead of lapis lazuli. L. approx 0.7cm D. approx. 0.3cm.

Prov.: From the south shaft, mastaba of Kai-es-wedja (Lepsius 37, G 5340).

Date: 4th-early 5th Dynasty.

Published in: Junker 1944: 179, fig. 74.

[65] *Royal boat of King Khufu* (Pl. 18) Measuring 43.3m. (142ft), it was made largely of cedar but other timbers were noted in samples analysed:

- blade of an oar (no. 22), found to be *Ostrya carpinifolia* from SE Europe and Anatolia. Meiggs identifies this as a piece of hop-hornbeam (1984: 408).
- sample from board (no. 47) – *Juniperus* sp.
- sample from a shaft of an oar (no. 40) – cedar.

Prov.: Boat found to the south of Khufu pyramid, in a boat pit.

Date: 4th Dynasty, reign of Khufu.

Published in: Widely published, but see Nour et al. 1960: 45-6; Meiggs 1984: 63, 408; Lipke 1984; Lehner 1997: 118-9; Gale et al. 2000: 367-8.

Comment: A second boat still lies undisturbed in its boat pit beside the pyramid, and it can be assumed that this boat is made of similar timbers.

[66] (not illustrated) Cedar wood used for the rectangular coffin of a woman. Coffin undecorated on the interior and exterior. Base made of a single piece of wood, and the lid of two pieces joined together. Sides made of three planks fitted together with round wooden pegs, knotholes patched. Recessed lid, with two knobs along the east side acting as handles. L. 2.4m W. 98.0cm D. 83.5cm.

Prov.: Tomb G 2220 B, burial intact, possibly the wife of the anonymous tomb owner (D'Auria et al. 1988: 76). Burial chamber otherwise empty. No names and titles preserved in the mastaba.

Date: 4th Dynasty.

Published in: coffin - D'Auria et al. 1988: 76-7; tomb – Reisner 1942: 451-3.

Comment: Although no name was preserved, the large size of the tomb combined with its location in the Western Cemetery marks it as belonging to a high-status individual (D'Auria et al. 1988: 77). Junker also noted the use of cedar for the construction of a coffin from the tomb of Seshat-hotep, dating to the late 4th–5th Dynasty (Junker 1926: 75; Junker 1934: 178), but the basis of the timber identification is unknown. He also suggested that the coffin of Meri-ib and Idu II were also be made of cedar (1934: 178).

[67] *Pelizaeus Museum, Hildesheim Inv. 2511* (Pl. 9) Rectangular wooden coffin with lid, made of long planks dowelled together, with name and titles of owner cut into surface, who was Idu, *imi-rꜥ pr ꜥš* 'Overseer of the House of ꜥš-wood'. The wood was analysed and identified as *Cedrus libani* A. Rich., *Pinaceae* (Schmitz 1996: 25). L. 2.245m Br. 66.7cm Ht 70.2cm.

Prov.: Western Cemetery.

Date: Late 6th Dynasty.

Published in: Junker 1947: 91, 96-106; Meiggs 1984: 409; Eggebrecht 1986: 98-9; Schmitz 1996: 25.

[68] *Pelizaeus Museum, Hildesheim Inv. 3199* (not illustrated) Wooden headrest made in three pieces, with a curved cushion and fluted stem sitting on a rectangular base. Timber badly damaged, but identified as box (*buxus spec.*). Ht 13.6cm.

Prov.: Mastaba S370, South mastaba field, excavated by Junker in 1928-9.

Date: OK.

Published in: Martin-Pardey 1991: 3199.

A wooden statue of a man from Giza (Musée Borély Inv. 217) dating to the end of the OK is thought to be of cedar but this has not been tested scientifically (Harvey 2001: 520-1, 619).

3.4 Abusir

[69] – [70] (not illustrated) Two fragmentary Combed Ware jars, coilmade, exterior combed horizontally and vertically with a tool. For one vessel, exterior fired orange-yellow, and coated with a creamy yellow lime wash. The fabric is described as ‘a relatively homogenous mass with the inclusion of middle-size and large particles of quartz and limestone, similar to ‘Canaanite Jar’ fabric, as classified by Do. Arnold in Dahshur’ (Barta 2001: 185). Ht 32.0cm W. 22.0cm D. base 10.0cm.

Prov.: Burial chamber of Kaaper.

Date: Early 5th Dynasty.

Published in: Barta 2001: 185, pl. 85b (colour).

[71] *Reg. 86-3/HH/2000* (not illustrated) Combed Ware jar with an intact Nile mud cap, bearing impressed circles and a seal impression with the name and titles of Qar (Junior) and a cartouche of Pepy I. Handmade, horizontal combing on exterior, surface fired yellowish red (5YR 4/6), traces of lime wash. Fabric had very little calcareous material and no zones in section. Ht incl. cap approx. 50.0cm W. 32.0cm Ht cap 12.0cm D. cap 21.0cm.

Prov.: The tomb of Qar Junior, south Abusir.

Date: 6th Dynasty, reign of Pepy II.

Published in: Unpublished.

Comment: Vessels from the tomb of Qar and related deposits were all examined by the writer in 2000.

[72] *Reg. 86-4/HH/2000* (Pl. 10) Small fragmentary Combed Ware jar with a Nile mud cap bearing impressed circles and a vertical seal impression with the name and titles of Qar (Junior) and Pepy I with traces of white pigment. Squat vessel shape, surface not combed, very thin-walled (0.4mm. at the shoulder)

and bearing evidence of having been turned on a wheel. Soft firing, exterior fired dusky red (2.5YR 4/4) and same colour in section with no zones, containing medium to large angular calcareous pieces up to 0.5mm. in size, some rounded quartz. Ht 35.0cm W. 26.5cm D. base 13.5cm Ht cap 10.0cm D. cap 17.0cm.

Prov. and Date: As for [71].

Comment: The fabric was quite different and was softly fired relative to other vessels in the Abusir corpus. M. Barta has suggested that this jar is a local Nile silt copy of an imported vessel (Barta pers. comm. 5/8/07), which is possible.

Published in: Unpublished.

[73] *Reg. 86-1/HH/2000* (Pls 10, 12) Very large Combed Ware jar with a tooled everted rim, and raised collar at the base of the neck. Traces of a Nile mud cap. Handmade in several sections, rim and neck added separately to body of vessel. Faint horizontal combing on the uncoated exterior, fired red (2.5YR 5/6), soft firing. Fabric red (5YR 5/6) in section with no zones, containing calcareous inclusions <3mm., large sub-rounded rock fragments (4mm.-2.5mm.), some fine black rock and rounded to sub-rounded quartz (<0.025mm). Red Ware. Ht 67.0cm D. base 18.2cm.

Prov. and Date: As for [71].

Comment: The rim shape is very similar to [50-1] from Giza and like these vessels is large in size with light combing on the surface. [73] is the only Combed Ware jar with a raised collar; other vessels with any decoration at the base of the neck feature only an impressed or incised row of short diagonal lines, imitating this feature (see [13] and comments, [50-1]). Raised collars are more common on one-handled jugs [57-60]. Miroslav Barta believes that this vessel may be of Nile silt (pers. comm.).

Published in: Unpublished.

[74] *Reg. 105/HH/2001* (Pl. 10) Tall slender Combed Ware jar mended from fragments. Handmade, rim modelled by folding clay over on itself and probably finishing on a turning device. Exterior uncoated, but thick horizontal and vertical combing visible. Thick-walled vessel hard-fired, exterior fired red (10R 5/4) with two firing zones visible in section, grey (5YR 5/1) toward the interior of the pot and weak red (10R 5/4) closer to the exterior. Large calcareous inclusions <5mm. visible on interior, exterior and in section; also visible in section, plenty of angular black rock, 2mm. in size and small sub-angular quartz particles 0.025mm. Coarse Combed Ware. Ht 58.5cm W. 29.0cm D. base 13.5cm.

Prov.: From the burial shaft of Senedjem-ib.

Date: As for [71]. The shape and ware of this jar is very different to the others from Abusir, being much taller and leaner. Along with the overall shape, the heavy surface combing and rim type are close to [100] from Edfu dating to the late 5th-early 6th Dynasty. This might indicate an earlier date of manufacture,

thus an heirloom supplied to the burial equipment of the deceased to complete a 'set' or added for prestige reasons.

Published in: Unpublished.

[75] *Reg. 2/HH-Sh 'C'/2002* (Pl. 10) Combed Ware jar, missing small pieces from the tooled everted rim but otherwise complete. Handmade, neck and rim added separately. Rows of fine horizontal and diagonal combing on the exterior; Combed horizontally over the lower body. Uncoated exterior fired red (2.5 YR 5/6), medium firing, softer than [74]. No clear section visible, but on the break at the rim, the fabric was noted to include plenty of fine dark stone, sub-rounded sand, large calcareous inclusions up to 0.5mm. in size, and large sub-angular black stone inclusions up to 0.2mm. in size, more than was visible in [74]. Coarse Combed Ware. Ht 50.0cm. W. 31.0cm. D. base 14.0 cm.

Prov.: Shaft 'C', Qar burial complex.

Date of context: As for [71].

Published in: Unpublished.

[76] *Reg. 86-6/HH/2000* (Pl. 11) Intact Combed Ware jar, squat shape, with a Nile mud cap, bearing impressed circles on the surface and a seal impression with the names and titles of Qar (Junior) with traces of white pigment. Light horizontal combing on the exterior, vessel very similar to [77] in ware and execution. Uncoated exterior fired red (2.5YR 5/6) with some large calcareous inclusions visible on the surface. No fabric section visible. Red Ware. Ht 41.0cm. W. 29.5cm. Ht cap 8.5cm. D. cap 21.5cm.

Prov. and Date: As for [71].

Published in: Unpublished.

[77] *Reg. 86-2/HH/2000* (Pl. 11) Intact Combed Ware jar, handmade. Complete Nile mud seal *in situ*, bearing impressed circles and two rows of a vertical seal impression with the name and titles of Qar (Junior), traces of white pigment visible. Identical to [76]. Medium fired; uncoated exterior fired red (2.5YR 5/6) with light horizontal combing on the exterior. No fabric section visible. Red Ware. Ht. 49.0cm. W. 30.5cm. D. base 14.0cm. Ht. cap 19.0cm. D. cap 9.0cm.

Prov. and Date: As for [71].

Published in: Unpublished.

[78] *Reg. 86-5/HH/2000* (Pl. 11) Combed Ware jar, handmade, missing a handle but otherwise intact. Complete Nile mud cap still *in situ*, bearing impressed circles and a seal impression with the name and titles of Qar (Junior), traces of white pigment visible. Light horizontal combing on exterior, medium fired red (2.5YR 5/6); vessel not cleaned at time of examination and thus still bearing white encrustations; not possible to see surface clearly.

Similar to [76]. Red Ware? Ht. 46.0cm. W. 27.0cm. D. base 14.0cm. Ht cap 11.0cm. D. cap 19.0cm.

Prov. and Date: As for [71].

Published in: Unpublished.

[79] *Reg. 86-12/HH/2000* (Pls 11-12) Combed Ware jar, handmade, similar shape to [74], but with a spout made on one side of the thickened flaring rim, made by pressing the fingers into wet clay. Light diagonal and horizontal combing on the uncoated exterior, well-fired red (2.5 YR 5/6). Incised potmark on shoulder, consisting of a vertical line and two pairs of diagonal lines forming a simple tree-shape. Fabric has some large inclusions visible in the surface, including calcareous fragments <3mm., rounded black stone <3mm., along with frequent small black, white and brown stone inclusions. Coarse Combed Ware, fabric similar to [75]. Vessel originally had a Nile-mud stopper with impressed circles on the exterior. Ht 53.0cm. W. 27.0cm. D. base 15.0cm.

Prov.: As for [71].

Date: The narrow shape recalls vessels of the late 5th-early 6th Dynasty. See the remarks for [74] above.

Published in: Unpublished.

[80] *Reg. 3/HH-Sh 'C'/2002* (not illustrated) Fragmentary Combed Ware jar, with a square everted rim with overhang and impressed diagonal lines at the base of the neck imitating rope. Horizontal combing on uncoated exterior, fired yellowish red (5YR 5/6); very soft firing. Fabric identical to [73], with large sub angular calcareous inclusions, <0.3mm., angular quartz <0.3mm. rounded grog (?) <0.2mm., and plenty of fine black, white and grey inclusions in the matrix, which in section is fired the same colour as the surface. Coarse Combed Ware. Ht 42.5cm. D. 31.0cm. D. base 14.0cm.

Prov.: Shaft 'C', Qar burial complex.

Date: As for [71].

Published in: Unpublished.

[81] (not illustrated) A wooden dummy vase and piece made of Cilician fir (*Abies cilicia*).

Prov.: Not known.

Date: 5th Dynasty.

Published in: Wittmack 1910: 181-92; de Vartavan and Aseni-Amorós 1997: 23.

[82] *Berlin Schweinfurth Collection No. 144* (not illustrated) A wood sample from Abusir identified as Cypress (*Cupressus spec.*).

Prov.: The pyramid complex of Niuserre, excavated by Borchardt in 1903.

Date: 5th Dynasty.

Published in: Germer 1988: 55

3.5 Saqqara

Combed Wares were found in OK tombs at Saqqara by the Polish Archaeological Mission (Rzeuska 2001; 2002; 2003). However, examination of the fabrics by petrography and SEM identified these as local imitations (Rzeuska 2003). They were found in tombs dated to the 6th Dynasty, a finding which mirrors the discovery of possible local imitations from the late 6th Dynasty tomb of Qar at Abusir (see above).

[83] *Egyptian Museum, Cairo, number not known* (Fig. 14) Combed Ware jar with an incised decoration at the widest part, consisting of a vertical panel of cross hatching framed by a border of two vertical lines. Fine horizontal combing marks on exterior, possibly coated with a fine lime wash. Ware unknown. Complete. Ht approx. 45.0cm.

Prov.: Tomb of Washi-Ptah, Pepy II necropolis, south Saqqara.

Date: 6th Dynasty, probably reign of Pepy II.

Published in: Jéquier 1929: 26, fig. 25.

Comment: This vessel was on display in the Cairo Museum, but was not examined.

[84] *Saqqara, number not known* (Fig. 14) Combed Ware jar with an impressed rope decoration at the base of the neck. Dimensions unknown.

Prov.: Shaft fill, mastaba of Idi, Pepy II necropolis, south Saqqara.

Date: 6th Dynasty, probably reign of Pepy II.

Published in: Jéquier 1929: 13-4, fig. 10.

[85] *ACE Reg. TW2000:6* (Pl. 7) Fragmentary body of a small Combed Ware jar, narrow shape. Handmade, thin-walled, finished on a turning device. Exterior uncoated with largely horizontal combing and traces of diagonal combing visible. Patchy firing, exterior ranging from yellowish red (5YR 5/6) to greyish brown (10YR 5/2). Dark, dense fabric with low porosity, dark brown in section fading to yellowish red toward the exterior, containing coarse and fine angular black rock inclusions, medium-fine grog, and very sporadic fine to coarse calcareous material. Dark Brown Ware Variant 2. Hardness Moh's 3. Ht 23.0cm W. 11.0cm(?) D. base 7.3cm.

Prov.: Burial chamber of Ka-em-hesit, Teti Cemetery.

Date: Late 5th Dynasty, late Niuserre-Isesi (McFarlane 2003: 23).

Published in: McFarlane 2003: 45, pl. 17 and 51 (drawing not accurate).

[86] (not illustrated) Upper body of a Combed Ware jar. No further details known.

Prov.: Userkaf Pyramid complex.

Date: 5th Dynasty.

Published in: Kaiser 1969: 54.

[87] *Cairo CG 47840 and 47843* (Pl. 9) Tubular lapis lazuli beads and two gold pendant beads in the shape of beetles, inlaid with pieces of lapis lazuli.

Prov.: Tomb of Queen Iput, found on the body of the queen still inside the sarcophagus in the burial chamber. According to the excavators, the bracelet was 'still on the bones of the right arm' (Firth and Gunn 1926: 12).

Date: 6th Dynasty.

Published in: Firth and Gunn 1926: 12, x, pl. 15B; Junker 1944:179.

[88] (not illustrated) A 3rd Dynasty coffin from a secure context in the Step Pyramid, made of cypress, pine, juniper, probably cedar and local timbers (Lucas and Harris 1989: 430-1). These are imported, except for *Juniper phoenicia* which is also known from the Sinai (Serpico 2000: 432-3, Table 18.1). Lucas said that this type of coffin, made from different woods, 'may have evolved as a method of using up small pieces of good timber' (1936: 2).⁶⁷

[89] (not illustrated) Juniper wood used for 'a small lid of a box from the 3rd Dynasty'.

Prov.: Not known.

Date: 3rd Dynasty.

Published in: Ribstein 1925: 204; Täckholm and Täckholm 1941: 78; de Vartavan and Aseni-Amorós 1997: 145.

Comment: Juniper berries (*Juniperus oxycedrus* and *Juniperus oxycedrus ssp. macrocarpa*) were also reported from one of the subterranean chambers on the north side of Djoser's pyramid (Täckholm and Täckholm 1941: 75; de Vartavan and Aseni-Amorós 1997: 143).

Queen Iput was reported to have an inner coffin of cedar (Firth and Gunn 1926: 12), but the basis of the identification is unknown.

3.6 Dashur

[90] *Reg. S45* (Fig. 13) One-handled jug of Type 2c.i, mended from fragments. Exterior coated with a reddish yellow slip (Munsell 7.5YR 7/6) bearing a dull sheen. Ht approx. 29.0cm D. max. 17.0cm.

Prov.: Mastaba of Prince Netjereperef, a son of Sneferu. The sherds were scattered throughout the tomb: some were in the shaft fill, others close to the burial chamber, and another in the surface deposits (Alexanian 1999: 108).

⁶⁷ Ward (1991: 13) stated that the timbers were 'cypress, pine and cedar or juniper' but Lucas' results say otherwise (Lucas 1936: 4).

Date: Early 4th Dynasty, reign of Sneferu.

Parallels: See [57].

Published in: Alexanian 1999: 108-10, fig. 46, pl. 20.

[91] (not illustrated) Cedar scaffolding (Stadelmann 1982: 1223) and possibly also cypress (Sloley 1953).

Prov.: Internal scaffolding of the Upper Burial Chamber, Bent Pyramid.

Date: 4th Dynasty, reign of Sneferu.

Comment: Cypress wood was noted from the 'Tomb of Sneferu' from which a sample for ^{14}C was taken, however the provenance and nature of the object was not stated, nor the basis of the timber identification (Sloley 1953).

3.7 Meydum

Type 2f: Small jar with a wide funnel mouth; single strap handle from rim to shoulder.

[92] *NY Carlsberg Glyptotek AEIN 1241* (Pl. 8) Jar, ovoid body tapering towards the base, now missing. Probably made on a turning device. Described as being of a 'very thin burnished drab ware' (Petrie 1910: 27), exterior coated with a light brown slip. Exterior lightly burnished in short strokes; horizontally around the rim and on the interior of the neck. Half way down the interior of the neck, the slipped and burnished surface stops abruptly as if broken (a form of sealing?). Below this, vertical marks have been incised onto the clay before firing. Fabric not known, but calcareous inclusions visible in the matrix. Ht 16.0cm W. 10.0cm D. rim 8.0cm.

Prov.: Tomb 55; entrance apparently intact, but no trace of body or bones.

Date: Early 4th Dynasty, not later than reign of Sneferu or Khufu.

Parallels: Red polished ware jug from Byblos, Period KIII (Hennessy 1967: pl. 59.12; Saghih 1983: pl. 36.4106, 5390, pl. 50 top row right [also published in Dunand 1939: 368-9, fig. 288, no. 5390) and pl. 51, top row right; Stager 1992: 38, fig. 7.12). Identical parallels are known from Tell Arqa, north of Byblos (J-P. Thalmann pers. comm. 15/10/07).

Published in: Petrie 1910: 27, pl. 19.5 and 24.4.

Comment: The shape and description of the ware marks this as a unique foreign type in Egypt. The context dates to the late 3rd Dynasty or more likely, the early 4th Dynasty. The latter date is preferred on the basis of parallels for a travertine concave-sided cylinder jar with lug handles under the rim, also found in the tomb, which are known from the early 4th Dynasty (Reisner 1931a: fig. 43.2; Reisner 1942: fig. 245; Reisner and Smith 1955: 96, pl. 45e). Saghih dated it to the 3rd Dynasty (1983: 106) but Stager also preferred an early 4th Dynasty date for the jar, proposing a Byblite origin based on parallels from that site (Stager 1992: 38, fig. 6.4 compare 7.12). However, a similar type is known from Tell Arqa (see above). The writer did not examine this vessel, nor was it possible to obtain samples for analysis

3.8 Sedment

[93] *NY Carlsberg Glyptotek AEIN 1560* (not illustrated) Cedar statue of Meryre-hashetef as an older man. Carved in one piece, with feet fitted into a rectangular base. Surface smoothly polished. Ht 65.5cm.

Prov.: Tomb of Meryre-hashetef.

Date: 6th Dynasty, Pepy I-Merenre.

Published in: Petrie and Brunton 1924: pl 7; Ziegler 1999: no. 191; Harvey 2001: 208-9, 619.

3.9 Deshasha

[94] (Fig. 15) Carved lapis lazuli amulets or pendants, in the shape of a leopard's head, a jackal's head and an unspecified number of barrel beads.

Prov.: Grave 117, from the wrists of a body in a coffin, found with other beads and amulets of agate, carnelian, limestone, and possibly faience.

Date: Dated by Petrie to the 5th Dynasty.

Parallels: Brunton 1948: pl. 31.33 (5th Dynasty).

Published in: Petrie 1898: 17, pl. 26, nos 1, 5, 9, 18, 22; Crowfoot Payne 1968: 61.

3.10 Matmar

[95] *British Museum EA 63698* (Fig. 14) Combed Ware jar with a clay sherd lid, held in place with leather and mud sealing. Handmade; tall and narrow in shape. Horizontal and vertical combing over the exterior, with horizontal combing only toward the base. Traces of a lime wash visible. Fabric is red with a lighter reddish-brown core streak; overall, a very 'dirty' clay with many inclusions, including calcareous material <2mm., small quantities of quartz sand and dark minerals fine to <1mm in size. Missing the rim and most of one handle. Coarse Combed Ware. Ht 41.7cm W. body only 21.6cm D. neck 8.6cm D. base 11.5cm.

Prov.: Tomb 3209, burial undisturbed.

Date: Late 5th–early 6th Dynasty (Seidlmayer 1990: fig. 81). Helck erroneously dated the jar to the reign of Khufu (1971: 30-3).

Published in: Brunton 1948: 29, 45, pl. 37.

Comment: Although Brunton dated this grave to the 4th Dynasty, the ceramics point to the 5th Dynasty or even the early 6th, preferred by Seidlmayer (1990: fig. 81). The Meydum bowl fits types from the 5th Dynasty to the early 6th, outlined by Ballet (1987: 14, fig. 11, type xiv).

[96] (Fig. 15) Lapis lazuli amulets and beads:

- carved amulet from Grave 3280
- bead type 78P20 from Grave 3314

- bead type 78M9 from Grave 3315.
Date: Dated by Brunton to the 5th and 6th Dynasty.
Published in: Brunton 1948: pls 31, Type 38.22c, 71, Type 78.

3.11 Mostagedda

[97] (not illustrated) Lapis lazuli bead.
Prov.: Grave 5102.
Date: Late OK.
Published in: Brunton 1937: pl. 49.

3.12 Qau el-Kebir

[98] (Fig. 15) Lapis lazuli biconical bead, pierced for suspension by drilling from both ends. Brunton bead Type 78H18.
Prov.: Grave 969.
Date: Dated by Brunton to the 4th Dynasty (1928: pl. 50).
Published in: Brunton 1928: pl. 70, Type 78H18.

3.13 Ballas

[99] *Number unknown* (Fig. 14) Two-handled jar. No details known. Ht approx. 33.6cm.
Prov.: ‘...found in a chamber opening from a shaft-tomb otherwise empty’ (Petrie and Quibell 1896: 27).
Date: Probably OK.
Published in: Petrie and Quibell 1896: 27, pl. 45.7.
Comment: Quibell believed this vessel to be of 12th Dynasty date but the vessel almost certainly comes from an OK shaft tomb.

3.14 Edfu

The whereabouts of only one foreign imported vessel from Edfu is known. The Franco-Polish expedition records two Combed Ware jars from the tomb of Isi, and a one-handled jar which may be imported.

[100] *Louvre E 16577* (Pl. 7) Large jar, tall narrow shape, with an everted roll rim. Horizontal and diagonal combing over the light red surface, with traces of white slip/wash. Potmark incised pre-firing above one handle, consisting of two pairs co-joined diagonal lines. According to the excavators, the vessel contained traces of resin. Broken at the rim but otherwise complete. Ht 46.5cm D. base 12.0cm.
Prov.: Tomb of Isi, burial chamber, beside the sarcophagus (north side).

Date: Late 5th to early 6th Dynasty (Isesi to Teti), Edfu Stufe I (Seidlmayer 1990: 378). Cherpion dated the mastaba to the reign of Pepy I (1989: 230).

Published in: Michalowski et al. 1950: 48, 251, no. 687, fig. 114, pl. 34, bottom row second from left; Seidlmayer 1990: 50, fig. 15, TE220.

Comment: Isi was a minor Edfu official who held the title 'Sole Companion'. His career spanned the reigns of Isesi, Unas and Teti (Seidlmayer 1990: 63).

[101] *Edfu No. 687a* (not illustrated) A Combed Ware jar, similar to **[100]** above. Condition and dimensions unknown.

Prov: Southwest room, Tomb of Isi.

Date: As per **[100]** above.

Published in: Michalowski et al. 1950: 43, 251, no. 687a.

A squat one-handled jar was found in a 6th Dynasty tomb (Bruyère et al. 1937: 113, no. 89, fig. 64, pls 20-1, bottom; Seidlmayer 1990: 50, fig. 16, TE232). It featured a wide flat base, short flaring rim and a single loop handle from rim to shoulder. The surface was light-coloured compared to other pots in the tomb. This, along with the shape that is not generally known in OK ceramics points to a possible EB IV import from Canaan (see broad parallels in Helms 1989: fig. 3.11, 13-5; fig. 6.4). Two other vessels in the same tomb were identical in shape but had a dark surface like the rest of the pottery assemblage, suggesting local copies.⁶⁸

3.15 Elephantine

[102] *Reg. No. Z3319* (Fig. 15) Combed Ware body sherd, mid-brown in section and on the surface with <1-1.5mm. white inorganic inclusions distributed evenly throughout the matrix. The exterior surface bears horizontal, vertical and diagonal combing. 4.1x6.2x0.9cm.

Prov.: Found during the Satet temple excavations (1977) in the matrix of a mudbrick, along with 2nd-4th Dynasty sherds (D. Raue pers. comm. 7/7/99).

Date: The wall from which the brick came (context no. 7904dd) dates 'earlier than the beginning of the 6th Dynasty', although 'the Egyptian diagnostic sherds point to a latest possible date in the fourth dynasty (sic)' (D. Raue pers. comm. 7/7/99) or early 5th Dynasty. However, owing to the fact that no levels relating to this wall remained, and the tendency of brick-makers at the site to use soil from earlier levels, the later date for the brick and therefore the sherd is possible (D. Raue pers. comm. 7/7/99).

Comment: Since this discovery, several other Combed Ware sherds of a similar fabric have been discovered, dating to the first half of the 6th Dynasty

⁶⁸ The whereabouts of these jars is unknown. Two similarly dated metal ovoid jars with handles occur at the same site (Seidlmayer 1990: 50).

(D. Raue pers. comm. 18/8/04; I. Forstner-Müller pers. comm. 4/2/08). Dr Raue advised that he examined all the third millennium sherds excavated at Elephantine over the years, and he is convinced that these are probably the only examples.

3.16 Unprovenanced

[103] *British Museum EA 29594* (not illustrated) Intact wooden statue of a naked man called Tjeti, carved from *Cedrus spec.* Feet fitted onto a rectangular plinth, eyes inlaid with travertine (or calcite) and obsidian. Surface polished. Ht 75.5cm.

Prov.: Unknown. Possibly from Sedment.

Date: 6th Dynasty.

Parallels: The statue is very similar to **[93]**.

Published in: Seipel 1992: 42-3, no. 36; Penny 1993: 144, 281-2.

Comment: The timber was identified by the British Museum Conservation Department.

[104] *Reg. No. unknown* (not illustrated) Yew wood coffin pieces.

Prov.: Unknown.

Date: 6th Dynasty.

Published in: Beauvisage 1896, cited in Gale et al. 2000: 352.

3.17 Conclusion

Ceramics (and their contents) comprise the largest class of imported goods, with at least 85 individual vessels known and a number of sherds. Other goods include lapis lazuli (7 entries), coniferous wood (11 entries) and small quantities of other timbers (1 entry). Although few wooden objects have been tested, cedar (*cedrus libani*) is the most prominent imported timber (6 entries). All these foreign goods are discussed in Chapters 6 and 7.

Table 4: Summary of imported material in Old Kingdom Egypt

<i>No.</i>	<i>Item</i>	<i>Context</i>	<i>Date</i>
[1]	Fragt Combed Ware jar	Giza G 4140 A ?	Prob. early 4th Dyn.
[2]	Fragt Combed Ware jar	Giza G 4140	Early 4th Dynasty
[3]	Fragt Combed Ware jar	Giza G 4140	Early 4th Dynasty
[4]	Fragt Combed Ware jar	Giza G 4140	Early 4th Dynasty
[5]	Combed Ware jar	Giza G 4240	Early 4th Dynasty
[6]	Fragt Combed Ware jar	Giza G 4240 A	Early 4th Dynasty
[7]	Combed Ware jar	Giza G 4440	Prob. early 4th Dyn.
[8]	Combed Ware jar	Giza G 4440	Prob. early 4th Dyn.
[9]	Fragt Combed Ware jar	Giza G 4440	Prob. early 4th Dyn.

[10]	Combed Ware jar	Giza G 4760	Early 4th Dynasty
[11]	Combed Ware jar	Giza G 4760	Early 4th Dynasty
[12]	Combed Ware jar	Giza G 5020	Prob. early 4th Dyn.
[13]	Combed Ware jar	Giza G 5020	Prob. early 4th Dyn.
[14]	Combed Ware jar	Giza G 7330 A	Early 4th Dynasty
[15]	Combed Ware jar	Giza G 4340 A	Early 4th Dynasty
[16]	Fragt Combed Ware jar	Giza G 4750	Early 4th Dynasty
[17]	Fragt Combed Ware jar	Giza G 4430 A	Early 4th Dynasty
[18]	Combed Ware jar	Giza G 4530 A	4th Dynasty
[19]	Combed Ware jar	Giza G 4630 A	4th Dynasty
[20]	Combed Ware jar	Giza G 4630	4th Dynasty
[21]	Combed Ware jar	Giza G 4620 A	4th Dynasty
[22]	Combed Ware jar	Giza G 7948	4th Dynasty
[23]	Fragt Combed Ware jar	Giza G 4860 n	4th Dynasty
[24]	Fragt Combed Ware jar	Giza G 4860 n	4th Dynasty
[25]	Combed Ware jar	Giza G 2140 A	4th Dynasty
[26]	Combed Ware jar	Giza, Nezlet Batran	Mid 4th-5th Dynasty
[27]	Fragt Combed Ware jar	Giza G 4940 A-B	Prob. 4th Dynasty
[28]	Fragt Combed Ware jar	Giza G 7650 C	Poss. 4th Dynasty
[29]	Fragt Combed Ware jar	Giza G 7560 B	4th-early 5th Dyn. ?
[30]	Fragt Combed Ware jar	Giza G 7560 B	4th-early 5th Dyn. ?
[31]	Combed Ware jar	Giza G 7560 B	4th-early 5th Dyn. ?
[32]	Fragt Combed Ware jar	Giza G 7550 B	4th-early 5th Dyn. ?
[33]	Combed Ware jar	Giza G 1031 A	4th-early 5th Dyn ?
[34]	Combed Ware jar	Giza G 4970 A	Mid 4th-early 5th Dyn. ?
[35]	Combed Ware jar	Giza G 4410 A	Poss. 5th Dynasty
[36]	Combed Ware jar	A Giza tomb	Late 4th-5th Dynasty
[37]	Combed Ware jar	Giza, Shaft 294	Mid 5th Dynasty
[38]	Combed Ware jar	Giza G 2175 B	Mid-late 5th Dynasty
[39]	Combed Ware jar	Giza G 2350 L	Mid-late 5th Dynasty
[40]	Combed Ware jar	Giza G 1224 A	Mid-late 5th Dynasty
[41]	Combed Ware jar	Giza G 2430	Mid-late 5th Dynasty
[42]	Combed Ware jar	Giza G 2370 B	Mid-late 5th Dynasty
[43]	Combed Ware jar	Giza tomb of Kedfi	Late 5th Dyn. or later
[44]	Combed Ware jar	Giza G 2450	6th Dynasty
[45]	Combed Ware jar	Giza G 2450	6th Dynasty
[46]	Combed Ware jar	Giza G 2379 A	6th Dynasty
[47]	Combed Ware jar	Giza G 2387 A	6th Dynasty
[48]	Combed Ware jar	Giza, tomb of Itjef	6th Dynasty
[49]	Combed Ware jar	Giza G 2381 A	Late 6th Dynasty
[50]	Combed Ware jar	Giza G 2381 A	Late 6th Dynasty
[51]	Combed Ware jar	Giza G 2381 A	Late 6th Dynasty
[52]	Combed Ware jar	Giza G 2381 A	Late 6th Dynasty
[53]	Combed Ware jar	Giza G 2381 A	Late 6th Dynasty

[53a]	Combed Ware sherds	Giza settlement, various contexts	4th Dynasty
[54]	One-handled jar	Giza G 1412 A	Prob. 4th Dynasty
[55]	One-handled jar	Giza G 1233	Early 4th Dynasty
[56]	One-handled jar	Giza G 7000 X	Early 4th Dynasty
[57]	One-handled jar	Giza G 4340 A	Early 4th Dynasty
[58]	One-handled jar	Giza G 4340 A	Early 4th Dynasty
[59]	One-handled jar	Giza G 1233 A	Prob. early 4th Dyn.
[60]	One-handled jar	Giza G 2170 A	4th Dynasty
[61]	One-handled jar	Giza Shaft 294	Mid 5th Dynasty
[62]	One-handled jar	Giza G 1220 A	Mid-late 5th Dynasty
[63]	Lapis lazuli	Giza G 7000 X	Early 4th Dynasty
[64]	Lapis lazuli beads	Giza tomb of Kai-es-wedja	4th-early 5th Dyn.
[65]	Boat, imported wood	Giza, Cheops boat pit	4th Dynasty
[66]	Cedar coffin	Giza G 2220 B	4th Dynasty
[67]	Cedar coffin	Giza, West. Cemetery	Late 6th Dynasty
[68]	Box wood headrest	Giza tomb S370	OK
[69]	Combed Ware jar	Kaaper tomb, Abusir	Early 5th Dynasty
[70]	Combed Ware jar	Kaaper tomb, Abusir	Early 5th Dynasty
[71]	Combed Ware jar	Qar Jr tomb, Abusir	Late 6th Dynasty
[72]	Combed Ware jar	Qar Jr tomb, Abusir	Late 6th Dynasty
[73]	Combed Ware jar	Qar Jr tomb, Abusir	Late 6th Dynasty
[74]	Combed Ware jar	Burial shaft Senedjem-ib, Abusir	Late 6th Dynasty
[75]	Combed Ware jar	Shaft 'C', Qar burial complex, Abusir	Late 6th Dynasty
[76]	Combed Ware jar	Qar Jr tomb, Abusir	Late 6th Dynasty
[77]	Combed Ware jar	Qar Jr tomb, Abusir	Late 6th Dynasty
[78]	Combed Ware jar	Qar Jr tomb, Abusir	Late 6th Dynasty
[79]	Combed Ware jar	Qar Jr tomb, Abusir	Late 6th Dynasty
[80]	Combed Ware jar	Shaft 'C', Qar burial complex, Abusir	Late 6th Dynasty
[81]	Cilician fir jar	Abusir, unknown	5th Dynasty
[82]	Cypress wood	Pyramid of Niuserre	5th Dynasty
[83]	Combed Ware jar	Saqqara, tomb of Washi-Ptah	Late 6th Dynasty
[84]	Combed Ware jar	Saqqara, tomb of Idi	Late 6th Dynasty
[85]	Combed Ware jar	Saqqara, tomb of Ka-em-hesit	Late 5th Dynasty
[86]	Combed Ware jar	Saqqara, Userkaf complex	5th Dynasty
[87]	Lapis lazuli beads	Saqqara, tomb of Queen Iput	6th Dynasty
[88]	Imported timbers	Saqqara, Step Pyramid	3rd Dynasty
[89]	Box lid of juniper	Not known	3rd Dynasty

[90]	One-handled jar	Dashur	Early 4th Dynasty
[91]	Imported timbers	Dashur, Bent Pyramid	4th Dynasty
[92]	One-handled jar	Meydum, tomb 55	Early 4th Dynasty
[93]	Cedar statue	Sedment, tomb of Meryre-hashetef	6th Dynasty
[94]	Lapis lazuli amulets	Deshasha, Grave 117	5th Dynasty
[95]	Combed Ware jar	Matmar, tomb 3209	Late 5th-early 6th Dyn.
[96]	Lapis lazuli beads/amulets	Matmar, var. graves	5th-6th Dynasty
[97]	Lapis lazuli bead	Mostagedda, Grave 5102	Late OK
[98]	Lapis lazuli bead	Qau el-Kebir, Grave 969	4th Dynasty
[99]	Combed Ware jar	Ballas	OK (?)
[100]	Combed Ware jar	Edfu, tomb of Isi	Late 5th-early 6th Dyn.
[101]	Combed Ware jar	Edfu, tomb of Isi	Late 5th-early 6th Dyn.
[102]	Sherd Combed Ware jar	Elephantine	OK
[103]	Cedar wood statue	Possibly Sedment	6th Dynasty
[104]	Yew coffin pieces	Unknown	6th Dynasty

Four broad conclusions can be drawn from the corpus. Firstly and not surprisingly, most material clusters tightly at Giza, with 68 out of 103 corpus entries. This pattern may reflect an excavation bias, given the large-scale clearance of Giza tombs over the past 100 years relative to elsewhere in Egypt. Nevertheless, the proximity of Memphite officials to the royal epicentre, and hence access by elites to imported luxury items, is likely. Other objects occur less frequently at Abusir, Saqqara, Dashur and Meydum, in 4th-6th Dynasty tombs. Doubtless the royal burials themselves, now largely robbed out, were well endowed with imported luxury goods.

Little material is known from the 3rd Dynasty, with only a couple of imported timbers known [88-9]. This may reflect the fact that the 3rd Dynasty is poorly understood archaeologically, rather than any cessation of imports. Likewise, imported goods are attested from the 5th Dynasty [35-43, 69-70, 81-2, 86, 94-6], but not in large quantities. In addition, despite the presence of royal monuments, surprisingly little evidence has come to light from Saqqara. Recent discoveries at Abusir, where many vessels were found in one tomb, suggest that vessels discovered in the past at both sites may have been ignored or incorrectly identified, particularly if they were already broken and therefore of less interest. More vessels may come to light with better excavation and recording techniques.

Secondly, only after the 4th Dynasty is material found at regional centres south of Meydum. Only after the 4th Dynasty are various objects, like lapis lazuli beads [94, 96-8] and Combed Ware jars [95, 99] found in extremely modest burials in Middle and Upper Egypt. Such contexts suggest that after the 4th Dynasty, small amounts of exotica were filtering further south and coming into the hands of minor officials (Kantor 1992: 20). It may also

represent a secondary market in luxury goods. Another possible interpretation is that this reflects declining levels of central control over the fruits of foreign expeditions beyond the narrow confines of Giza/Memphis (Marfoe 1987: 27).

Finally, hardly any material comes from towns or settlements, with sherds from Giza and body sherds from Elephantine representing the only firmly identified finds. As noted in Chapter 1.4.2, a number of OK settlement sites are unpublished hence more material may eventually come to light. However, this phenomenon may also point to the inherent preciousness of imported pottery or objects made from exotic raw materials: acquisition of these goods was linked to the status of the owner and as such were regarded as important items to include in one's burial equipment rather than tossed on the local rubbish heap.

4. A CORPUS OF EGYPTIAN IMPORTS IN CANAAN

4.1. Introduction

This Chapter identifies Egyptian objects and texts found in EB III-IV Canaan (Fig. 16). The corpus is arranged by site, starting with the Sinai. Objects from each relevant site are canvassed, with stratified items of definite Egyptian origin given a catalogue number, with the excavation registration number noted, followed by curatorial details. Beads and small objects of carnelian and faience appear at just about every EB III site in Canaan and are not assumed to be Egyptian, unless chemical or typological evidence exists to the contrary. Possible egyptianising architectural features are also noted.

4.2. The Sinai

4.2.1. Archaeological sites

[105] Recent archaeological work has shed new light onto Egypt's role in the Sinai. The el-Markha Plain on the south-western coast was an important gateway to the ore-bearing region of Wadi Kharig and Wadi Maghara, with evidence of considerable activity on the coast in the late OK (Mumford and Parcak 2003; Mumford 2006). Central to these discoveries is the excavation of a circular fort at Tell Ras Budran (Fig. 6), identified as a coastal outpost to service an Egyptian anchorage and defend its expeditionary interests in the Sinai (Mumford 2006). Carbon dates are still forthcoming, but the terminal occupation stratum has been dated by the excavator to the late 6th Dynasty (Mumford 2006: 59), although pottery with an earlier date range is also present.⁶⁹ Of importance was the discovery of turquoise detritus and copper nodules, pointing to nearby industrial activity (Mumford 2006: 37).

Settlements at Wadi Maghara have evidence of OK copper smelting and refining, which shows that copper ingot production occurred, but the scope of mining activity is unknown (Petrie 1906: 39, 51-2). Petrie cites OK sherds as evidence for dating these sites, but his data cannot be verified. Site 702-B, several km east of Wadi Kharig, also has evidence of OK settlement and copper mining activity (el-Gayar and Rothenberg 1995: 146-52, figs 1-10; Mumford 2006: 54).

4.2.2. Inscriptions

[106] Many rock graffiti featuring kings smiting foreigners, accompanied by a short inscription, are carved onto the rock at or near Wadi Maghara (Redford

⁶⁹ Mumford 2006: 34, figs 18.6, 12 and 14. Study of the ceramics is still preliminary.

1986a: 136-9). As Goedicke notes, these were officially commissioned works by skilled artisans brought from Egypt (1964), designed as a visible reminder of Egypt's dominance of the surrounding region. Not every king appears to have left an inscription, and the reasons for this are not known (Andrassy 1991: 129). The earliest date to the 3rd Dynasty with Sanakht, Djoser and Sekhemkhet all represented (Gardiner et al. 1952: pl. 1; Goneim 1957: pl. 78; Giv'eon 1974). Fourth Dynasty kings with inscriptions are Sneferu (*Urk.* I: 8; Gardiner et al. 1952: pls 2.5 and 4.6) and Khufu (*Urk.* I: 8; Gardiner et al. 1952: pls 2.7 and pl. 3). The 5th Dynasty kings Sahure (*Urk.* I: 32; Gardiner et al. 1952: pls 5.8 and 7.9), Niuserre (*Urk.* I: 53; Gardiner et al. 1952: pls 4.11 and 6.10), Menkauhor (*Urk.* I: 54; Gardiner et al. 1952: pl. 7.12) and Djedkare-Isesi (*Urk.* I: 56; Gardiner et al. 1952: pls 4.15, 7.13 and 8.14) are present.⁷⁰ For the 6th Dynasty, Pepy I and Pepy II are represented (*Urk.* I: 91-2; Gardiner et al. 1952: pls 8.16, 9.17). The Montiu or Montiu-bowmen are described and/or represented as the foes of Egypt in a number of these inscriptions. The fact that such expeditions enjoyed the protection of the army also indicates that mining activities may have encountered local hostilities (Fischer 1959: 265; Andrassy 1991: 128, Mumford 2006: 54-5).

Rock graffiti of OK officials also exists around Wadi Maghara (Gardiner et al. 1952). Of interest are two inscriptions belonging to officials called Setka and Abdu (Giv'eon 1983). Both men held the title *'d-mr ḥ3st* 'administrator of the foreign land/hill country' (Helck 1954: 79-83, 90-1), a title also known from 3rd Dynasty Sinai graffito (Chevereau 1987: 16, no. 20). The name Abdu attested elsewhere in the 5th-6th Dynasty, including another Sinai inscription dating to the reign of Pepy I (Gardiner et al. 1952: pl. 1, no. 2; Giv'eon 1983: 49-50; Chevereau 1987: 15, no. 1). Two other names and titles are known from rock graffiti at Wadi Maghara: *sš b3* 'scribe of copper, Khunas' and 'controller of copper, Shepses' (Gardiner et al. 1952: 61, pl. 7.13), who served under Djedkare-Isesi.

[107] (Fig. 17) A rock graffito of Sahure was recorded at Wadi Kharig (Giv'eon 1977; 1978), which records him as *d3 Sṯt* 'Subduer of Asia'.

4.2.3. Ceramics

[108] (Fig. 17) Along the north Sinai 'Way of Horus', surveys conducted by Eliezer Oren identified OK Meydum bowl sherds (Oren and Yekutieli 1990: 14). They were found at T-47, BEA-26, C-10, C-65 and A-249 (Oren and Yekutieli 1990: 6-7). They considered the bowls to be late in the sequence, dating to the late 6th Dynasty-FIP, synchronised with MB I pottery also found

⁷⁰ A Palermo Stone entry for Sahure also notes goods brought from the 'turquoise terrace': *Urk.* I: 246.

there (1990: pls 4.14-6, 5.1-5; compare Ballet 1987: fig. 10). However, dating them to the late OK is too narrow based on the dating criteria for these types (Op de Beeck 2000); a more prudent approach may be to regard them as broadly 6th Dynasty.

Some 280 EB IV sites were noted along the north Sinai, including some relatively close to Egypt's eastern frontier near the modern day Suez Canal (Oren 1993: 1387-8). Some were identified as seasonal encampments, whereas others were thought to be more permanent pastoral settlements (Oren and Yekutieli 1990). The existence of these encampments, contemporary with the later 6th Dynasty, speaks of encroaching threats to Egypt and the need for improved border security. The Egyptian presence may have been required to help keep local Bedouin activity in check and support overland expeditions into southern Canaan (Mumford 2006: 57-8).

The occurrence of the Egyptian ceramic sherds is supported by the titles of Egyptian officials, such as 'Overseer of the Road of Horus' Hekni-khnum, who served during the mid-late 5th Dynasty or later (Hassan 1953: 40, 49; *PM* III²: 238; Fischer 1991: 63). Such titles indicate that the route continued its role as a land bridge in the OK, despite the importance of the sea-going Byblos run.

There is little archaeological evidence attesting to widespread use of this route during the early OK. Thus, while it was not abandoned, the sea-going 'Byblos run' sufficed (de Miroschedji 1998: 29), especially if this involved the large-scale shipping of bulk commodities.

4.3. Numeira

Numeira is a walled town located about 15km south of Bab edh-Dhra in the southern Ghors. Possibly Numeira was established to provide a specialist activity or absorb population growth from EB III Bab edh-Dhra; in any case both towns were destroyed at much the same time (Rast and Schaub 2003: 7). Final publication of the site is still forthcoming.

[109] *Reg.* 2844 (Pl. 13) Corner of a rectangular fine-grained grey (5Y 6/1) siltstone palette. Single line incised parallel to the edge on one side; this face is also polished. Broken hole on the short edge. Verso broken and split. L. 4.4cm W. 2.9cm Th. approx. 0.5cm.

Prov.: NE 4/1 Locus 72: from a street in the walled town area. The excavators noted that in this street area, 'cultural debris was heaviest opposite doorways Loci 51 and 53, particularly around Locus 72' (Rast and Schaub 1980: 43). A destruction level sealed the settlement.

Date of deposit: EB III.

Parallels: **[111-6, 121-2, 148-9]**, Petrie 1902: pl. 50.40, 52; Petrie et al. 1913: pl. 29; Jacobs 1996: 123-34; Kroeper 1996: 74-9, 81-3, figs 3-5, 8 (Naqada IIIB-C1).

Published in: Sowada 2000: 1528-9, fig. 3b.

Comment: On the basis of shape, material and technology, this palette is Egyptian, belonging to a type common during the Naqada IIIB-C1. A second palette fragment, made of sandstone, was found from the town (Sowada 2000: 1532, Reg. No. 3110). The object had no incised lines around the edge and may be manufactured from locally obtained stone.

4.4. Bab edh-Dhra

Bab edh-Dhra has been the subject of systematic excavations by American teams from the University of Pittsburgh since the 1960s (Schaub and Rast 1989; Rast and Schaub 2003 and references). The excavators describe the town as ‘medium size’ at 4.5ha when compared to other EB towns (Rast and Schaub 2003: 6). However, its EBA settlement and cemetery remains are extensive; a defensive system was initiated in the EB II and the site was fortified in the EB III (Rast and Schaub 2003: 6).

4.4.1. Carnelian beads

Carnelian beads are found in settlement and cemetery contexts, with simple disk beads known from the EB IA onwards (e.g. Schaub and Rast 1989: 302-10). Disk and cylindrical shapes, combined with short and long barrel beads were found in Charnel Houses A21, A51 and other contexts (Schaub and Rast 1989: 463-70; Broeder and Skinner 2003: 587-9, 581). Only a small number of beads from the EB III cemetery were carnelian or carnelian agate (Broeder and Skinner 2003: 588). Contrasting this with other periods, they note a smaller number of beads in the total corpus in comparable strata at Jericho and Bab edh-Dhra, suggesting either a change in preference for other stones or a break in the supply (Broeder and Skinner 2003: 588-9).

In addition, the question of where carnelian was obtained remains an open question without detailed scientific analysis (see Ch. 8). Carnelian pebbles noted in the wadis of Jordan may have provided the raw material for a local bead-making industry (Broeder pers. comm. 28/9/99). One broken cylindrical bead, from an EB IV tomb at Bab edh-Dhra is certainly Egyptian in origin (Broeder and Skinner 1992: 144) so imports may have mixed with local bead production. However, in their analysis of the carnelian beads from Bab edh-Dhra, Broeder and Skinner draw on a number of Egyptian parallels for the types found there, but stop short of describing some as imports from Egypt. This must, for the moment, remain an open question.

4.4.2. Shell and other beads

Many beads have been found in the tombs and settlement. Shell, calcite, copper, quartz and other stones, including possibly lapis lazuli, are noted (Schaub and Rast 1989: 461-70; Broeder and Skinner 1992; Broeder and

Skinner 2003: 566-98). Many calcite beads were found at Bab edh-Dhra, and again the origin of the raw material is of interest: calcite occurs in the region in its organic form, whereas inorganic calcite is from Egypt (Broeder and Skinner 2003: 569-70). Green, black and red faience beads also appear, mostly in simple disk shapes (Schaub and Rast 1989: 461-70). Ostrich shell beads may be locally made (Broeder and Skinner 1992: 144), with Reese suggesting that 'live ostriches were still found in Jordan into the 1950s' (1985: 155). At least 15 squat cylinder gold beads were found in Charnel House 22, E5 (Reg. 2049), with two pieces of decorated gold foil from a bracelet (Reg. 2806 – Rast and Schaub 1980: 39). Another piece of gold came from Field XVI.2, Locus 31 (Reg. 2855). These may be Egyptian, or made from imported raw material (Broeder and Skinner 2003: 570, 592) (Ch. 7.3.2). The raw material for a bead of elephant ivory may have originated from Syria or Africa (Broeder and Skinner 2003: 582).

[110] Dentalium shell beads from either the Red Sea or Mediterranean were observed in an EB II-III Charnel House (Broeder and Skinner 1992: 141). Other small objects from the EB II-III walled town area include those made from mollusc shell, possibly Red Sea Spider Conch or Scorpion shell (*Lambis truncata sebae*) (Broeder and Skinner 1992: 142-3; Bar-Yosef Mayer 2002: 131-3; Broeder and Skinner 2003: 575-7). A Red Sea mother-of-pearl shell pendent (Fig. 19) came from Charnel House 8, dated to the EB II-III based on carbon dates (Schaub and Rast 1989: 443, 456, fig. 262).

4.4.3. Maceheads

The few published examples and the excavations records shows that pear-shaped maceheads dominate in the EB III, in materials identified as travertine (calcium carbonate – Regs 752, 766, 1340) and 'marble' (Reg. 1602). A granite macehead was also noted in EB II-III Charnel House A51 (Schaub and Rast 1989: 459, fig. 263), a stone that is not found in Canaan. An unpolished pear-shaped macehead of pale grey-white marble or indurated limestone from the EB III town (Schaub and Rast 1984: 57) was thought to be Egyptian on the basis of stone type (Braun 1993: 124), but this was not analysed. An unfinished macehead from probable EB IV site nearby (Schaub and Rast 1984: 13, pl. 11.2) indicates local macehead production.

4.4.4. Palettes

Egyptian palettes and local copies form the largest group of *aegyptiaca*. They are mostly rectangular shapes bordered by incised lines.

[111] *Reg. 1262* (Pl. 13) Trapezoidal palette of green siltstone, with a drilled hole at the tope centre. Pair of well-cut incised lines parallel to the edge. Depression on one side, indicating use. Mended from several large but thin fragments, with sections of the surface missing. (a) L. 7.2cm W. 4.5cm (b) L. 6.0cm W. 4.9cm.

Prov.: Town site near fortifications, Field XVI.1, Locus 7 (mud brick debris); Stratum IB.

Date of deposit: EB III-EB IV.

Parallels: as for [109].

Published in: Rast and Schaub 1980: 22; Sowada 2000: 1529, fig. 3c; Rast and Schaub 2003: 400, 631, fig. 12.6.3-4.

[112] *Reg. 2924* (Fig. 18, Pl. 13) One quarter of a siltstone or slate palette of uniform dark grey colour with a greenish tint (5Y 4/1). Two roughly incised lines parallel to the edges on one side; this same side is also rough, missing chips from the surface and also pock-marked in places. Corners rounded and edges curved. Slight crack visible on both faces. Verso smooth with some pock marking. L. 10.4cm W. 3.3cm Th. 0.5-0.8cm.

Prov.: Town site near fortifications 'in the cult room', Field XVI.4, Locus 26; Stratum II.

Date of deposit: Late EB III.

Parallels: as for [109].

Published in: Sowada 2000: 1529, figs 1d, 3d; Rast and Schaub 2003: 294, 631, fig. 10.39.2.

[113] *Reg. 3364* (Fig. 18, Pl. 13) Complete rectangular fine-grained siltstone (or sandstone) palette, very dark greyish brown (2.5Y 3/2) stone with a pierced hole in the top centre, drilled from the back. Edges slightly rounded with indications of an incised line parallel to the worn edges. Recto has traces of incised lines around the edge and a 5.5cm. circular darkened area covers most of the flat area, where there are shiny patches, suggesting a cosmetic residue. Verso worn with some pock-marks and indications of incised lines around the edge. L. 7.4cm W. 5.9-6.5cm Th. 0.5-0.6cm.

Prov.: Charnel House A22, B6 on grid, Locus 24.

Date of deposit: Burial with mixed EB II and EB III materials, mainly EB III.

Parallels: as for [109].

Published in: Sowada 2000: 1529-30, figs 1e, 3e.

Comment: A geologist tentatively identified the stone as either a fine siltstone or sandstone. Although further analysis is required on the stone, the type is typical of late Naqada III palettes. The mixed nature of this context poses a problem for dating the palette. In the opinion of the excavators, all the palettes found in Charnel House contexts should be associated with the EB III material. This mirrors the date of similar palettes at Numeira and stratified Bab edh-Dhra town deposits.

[114] *Reg. 1900* (Fig. 18) Near complete but crudely made long rectangular siltstone (or sandstone) palette with a single roughly incised line parallel to the edge. Drilled hole at the top, slightly off centre. One third of the lower part of the palette burned in the burning that took place in the Charnel House. Mended from fragments. L. 16.3cm W. 8.5cm.

Prov.: Charnel House A22.

Date of deposit: Burial with mixed EB II-III materials, but mainly EB III.

Parallels: Petrie 1914: pl. 24.98r (dated to the Naqada IIIB-C1).

Published in: Sowada 2000: 1529, fig. 1c.

Comment: The stone requires further analysis as preliminary observation by the excavator suggests it may be sandstone. The author did not examine this object, so its identification as Egyptian remains tentative. It is included here on the basis of shape and technique.

[115] *Charnel House A51* (Fig. 18) Rectangular siltstone palette, single incised line parallel to the edges. Hole in the top centre drilled from both sides. Surface has some pock marks; verso flaking but no other wear signs. Complete. L. 7.4cm W. 5.4-5.0cm Th. 0.9cm.

Prov.: Charnel House A51.

Date of deposit: Burial with mixed EB II-III material, but mainly EB III.

Parallels: as for **[109]**.

Published in: Schaub and Rast 1989: 454, fig. 261.3; Jacobs 1996: 127, fig. 6.1; Sowada 2000: 1530, fig. 1f.

Comment: Four palettes came from Charnel House A51, but only this one is identified as Egyptian.

[116] *Charnel House A21* (Fig. 18, Pl. 13) Near complete square dark grey-green siltstone palette. Pair of incised lines parallel to the edge on recto; hole at the top centre drilled from both sides. Smooth on both surfaces but with surface damage on recto. L. 8.0cm W. 7.7cm Th. 1.0cm.

Prov.: Charnel House A21, Sz, found in 1965. The label says 'surface to 8.663'.

Date of deposit: Burial with a mixture of EB II and EB III material.

Parallels: as for **[109]**.

Published in: Schaub and Rast 1989: 455-6, fig. 261.7; Jacobs 1996: 127, fig. 6.2; Sowada 2000: 1530, figs 1g, 3f.

4.4.5. Cylinder seals

A cylinder seal (Reg. 2860) (Fig. 20a, Pl. 15b) from a secure EB III deposit is described as 'alabaster' (Lapp 1989: 5; Lapp 1995: 50), suggesting an Egyptian origin for the stone (Lapp 1995: 44; Braun 1993: 124; Lapp 2003: 542-3). The carved figure also recalls glyptic art of Egypt and southern Canaan (Amiran 1972: fig. 1; Brandl 1989: 371, fig. 11; Lapp 2003: 541-3).

Indeed Braun described the seal as an Egyptian import, albeit from the EB I (Braun 1993).

Material analysis suggests, however, that the stone is local gypsum (calcium sulphate) (Schaub pers. comm. 21/3/00; *contra* Lapp 1995: 44). Dr Gary Cooke, a geologist from Pittsburgh University, reported that the seal 'consisted of the minerals gypsum $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ and talc $\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$. There is more gypsum than talc, although it was not possible to distinguish how much more' (Cooke pers. comm. 9/97). He contends that 'alabaster is described as a 'firm, very fine grained and compact variety of gypsum, usually snow-white or translucent'. By this definition, cylinder seal #2860 is classified as alabaster' (Cooke pers. comm. 9/97). Egyptian gypsum quarries produced the stone for vessel production from the Predynastic to 3rd Dynasty (Aston 1994: 47-51), and surpluses may have been exported as well. However, gypsum also occurs in southern Canaan (Sparks 1996: 51-3; Broeder and Skinner 2003: 570). Rather than an Egyptian import, the seal may be of local or regional origin.

[117] *Reg.* 2823 (Fig. 19, Pl. 14) Carved chlorite-steatite or fine-grained chlorite cylinder seal. Incised design shows a long-haired seated figure seated before a table; behind the figure are two quadrupeds and a space-filling ornament, interpreted as a bird, a gazelle and a dog. The design is flanked on either side by an incised horizontal border. Complete. L. 1.6cm D. 1.6cm.

Prov.: Town site, Field XVII.1, Locus 88: EB III context, fell out of baulk (Lapp 2003: 549).

Date of object: EB II-ED, although many published by Spencer are unprovenanced (Spencer 1980: 59-62); second half of the 1st to 3rd Dynasty (van den Brink 1995: 204).

Parallels: Petrie 1917: pl. 1.5-12; Rowe 1936: 233, pl. 26.S1; Amiran 1970b: pl. 5 (from the Sharon Plain - often cited in the literature, but unprovenanced); Spencer 1980: 59-62.

Published in: Lapp 1989: 9-11; Lapp 1995: 45, pl. 2.2; Lapp 2003: 547-550.

Comment: The type was made for funerary purposes and usually bears a personal name, often compounded with that of a god (Spencer 1980: 59). However, the name on [117] cannot be read and has no parallel. The date of this type along with the ambiguity of the context suggests that an EB II or an early EB III date is possible.

4.4.6. Pottery

Rast and Schaub (2003: 385) point to a flat-based lamp form found in Stratum II (EB III) which has strong parallels with Egyptian types of the late OK-FIP. However, similar types are also found at other sites in Canaan (Rast and Schaub 2003: 385). Only one vessel of almost certain Egyptian origin has been identified at the site:

[118] *Reg. 2209* (Fig. 19) Globular jar, with a narrow neck and everted flanged rim. Ware unknown. Ht 13.5cm W. max. 13.5cm.

Prov.: Charnel House A22.

Date of deposit: From section of the tomb of mainly EB III material.

Date of object: Not later than the end of the 5th Dynasty.

Parallels: Reisner and Smith 1955: 71, fig. 86, *Reg.* 13-10-52 (early 4th Dynasty); *Reg.* 38-6-42 (mid-late 5th Dynasty); Kelley 1976: pl. 8.4 (14, 20), 11.2 (75), 17.7 (61, Q), 17.14 (3rd-6th Dynasty).

Published in: Rast and Schaub 1980: 39, fig. 11.3.

Comment: The retention of the jar as burial equipment suggests an element of preciousness. Stager regards this as the only known Egyptian ceramic import in EB III Canaan (1992: 41, fig. 7.13). It was not examined by the writer.

4.4.7. Stone vessels and other stone objects

A triangular 'handle' of unknown stone type (*Reg.* 2894), presumably from a stone vessel, was found in Field IV.5 Locus 7, an area near the west fortification wall. The nature of the object is not otherwise known. Schaub and Rast also reported a bowl rim fragment in 'soft calcite' (gypsum?) from Charnel House A21, Locus 4 (1989: 459, fig. 263.1). Plain rimmed bowls occur from the 1st Dynasty onwards, but also occur in the OK (Spencer 1980: 18). In this case the stone type and workmanship could not be verified. A basalt handle and a sandstone bowl fragment with a raised decoration were also found; the former would not appear to be Egyptian, while the latter is unverifiable as an import (Lee 2003: 625, fig. 21.5.1-2). Another curious object was a squared stone with a smooth, stepped face (*Reg.* 3101), measuring 32.0x27.0cm., from the town site in Field XVI.4, Locus 49 (Schaub and Rast 1984: 46). The purpose of this object is a mystery. Similar to a piece from Ai that Callaway believed to be Egyptian or at least Egyptian inspired, it may be the base for a wooden column (1972: 247). Any specific links to Egypt are unsustainable.

[119] *Reg. 1888* (Fig. 20) Rim and part of the body of a fine-walled travertine jar. External flat ledge rim, sides tapering towards the base. Surface polished and smooth. Ht 6.0cm.

Prov.: Town site, Field XIV.3, Locus 32; Stratum II.

Date of deposit: EB III.

Date of vessel: OK, probably not later than the end of the 5th Dynasty.

Parallels: Reisner 1931a: fig. 37.9-10; fig. 43.1; fig. 45.19; Aston 1994: 104; see also **[156]** from Byblos.

Published in: Lee 2003: 625, 630, fig. 21.5.3.

Comment: This piece belongs to a tapering cylindrical jar, common from the ED to the late OK (Reisner 1931a: 164; Aston 1994: 99-100). The rim becomes longer and more square-edged in the 6th Dynasty (Lacovara 1991:

fig. 3A-C, fig. 4G; Aston 1994: 100). The short rim suggests an example earlier in the sequence, not later than the end of the 5th Dynasty.

4.5. Tel Halif (Lahav)

Tel Halif (Lahav) has been the subject of excavations by the Lahav Research Project since 1976 (Seger et al. 1990 and references). *Aegyptiaca* from Tel Halif follows the same pattern as that established by Numeira, Bab edh-Dhra and Tel Yarmuth. Like these other sites, much material awaits detailed publication and analysis.

4.5.1. Carnelian beads

Carnelian beads occur in small quantities in the EB III levels. They are as follows:

- Bead from Locus B9023, from EB III fill in preparation for Str. 10.
- Bead from Locus A9100.1, EB III pre-Str. XIIC, debris make up of surface A9100.
- Bead from Locus B9100, from pre-Str. XII fill below street/debris make up of B9097.1.
- Bead from Locus A8070.1 pre-Str. XVB debris make up of surface A8070.

4.5.2. Faience beads

A considerable quantity of faience beads are known from EB III levels. Nearly 40 faience disk beads were found still articulated as part of a necklace (Seger et al. 1990: 15-6), and could be Egyptian in origin.⁷¹ The material is largely published on the web (see n. 3), but the EB III contexts are secure. These beads include:

- IDAM 83.930 (Locus A8047.1, Str. XIV house detritus).
- IDAM 83.933 (Locus A8019, debris from Str. XIII abandonment).
- IDAM 83.940 (Locus 10098, mixed deposit).
- IDAM 86.753 (mudbrick collapse in Locus A40554).
- IDAM 83.929 (Locus A8057.1, Str. XIV debris of surface).
- Bead from Locus A9110 from level pre Str. XIII A, a drainage channel or passageway.
- Bead from Locus A10110, from post Str. XII fill debris.
- Bead from Locus B9081.1, pre Str. XIII A, debris make-up of surface B9081 (possibly contaminated).

⁷¹ See object no. MC 50827 from Surface B9083.P, Stratum XIII B (EB IIIB). See <http://www.cobb.msstate.edu/dignew/FieldI/htmls/B9.htm>

- Bead from Locus A10153-1, pre Str. XIIIB, fill of surface.
- Bead from Locus B9074.1, pre Str. XIIIA fill of surface.
- Bead from Locus A9127.1, pre Str. XIIIB, debris make up of drainage channel A9127.
- Bead from Locus 9099, post Str. XV ash deposit inside Str. 15 fortification walls.
- Bead from Locus A9139, from pre Str. XIIIA fill debris.
- Bead from Locus B9070, Str. XI, XII, XIII wall of fieldstones.
- Bead from Locus B10130, mixed EB III/LB strata.

4.5.3. Beads - other materials

A pendant crystal bead was found in Str. XIIIC Locus A10154-1 but the shape is very crude and although it does not appear to have been manufactured in Egypt, the raw material may be imported.⁷² Samples of ostrich eggshell (e.g. MC 50847 from street debris B9097.1, Str. XIIIC) were also found in various EB III deposits from the site.

[120] *IDAM 1595, Lahav Obj. 1696* (Fig. 20) Polished green feldspar or amazonite bead amulet in the shape of a heart (?), pierced for suspension. Complete. L. 2.1cm W. 1.3cm.

Prov.: Field 1, Area A9, Locus A9136, Str. XIIIC. Found under rock fall in drainage trench.

Date of deposit: EB IIIB.

Published in: Seger 1990: 15.

Comment: Amazonite is a semi-precious stone of volcanic origin found in the Egyptian Eastern Desert and possibly the Libyan massif (Lucas and Harris 1989: 394; Aston et al. 2000: 45-6). It was used for bead-making throughout much of Egyptian history. This finished bead amulet has the hallmarks of Egyptian production and should be regarded as an import.

4.5.4. Palettes

A serpentine palette was identified in EB III deposit (1975: 502). This may be an import or made locally of imported stone (Aston 1994: 56-9). Fragments of other palettes were found in Str. XIII loci, but it is not clear from the records if these are made of Egyptian siltstone (Jacobs 1996: 131, n. 8).⁷³ These may be a local palette type.

⁷² <http://www.cobb.msstate.edu/dignew/FieldI/htmls/Obj1485.htm>

⁷³ Possibly a several different stones are represented:
<http://www.cobb.msstate.edu/dignew/FieldI/htmls/Obj1637.htm>

[121] *IDAM 83.844, Lahav Obj. 1083* (Fig. 18, Pl. 14) Rectangular siltstone palette with two incised lines parallel to the edges on recto, hole at the top centre drilled from both sides. Minor surface abrasion. Chips missing from one corner and around the edges but otherwise complete. L. 11.0-11.5cm W. 8.0-8.9cm Th. 0.7cm.

Prov.: Field I, Area A8, Locus A8055, Str. XIVBCD. Found within the debris and midden material of a stone-lined bin in the corner of walls A8025-A8023.

Date of deposit: EB IIIA-B.

Parallels: as for [109] see also palettes from Bab edh-Dhra and Beth Yerah in the present work.

Published in: Jacobs 1996: 123-34; Sowada 2000: 1528, figs 1a, 3a.

[122] *Lahav MC 57797* (not illustrated) Siltstone palette fragment, body segment only (no edges).

Prov.: Field I, Area A10, Locus A10163.1, debris of surface Str. XIVAB

Date: EB IIIA.

Published: <http://www.cobb.msstate.edu/dignew/FieldI/htmls/A10.htm>.

4.5.5. Stone vessels

A rim of a limestone bowl (Object 1088) was discovered in Area B8, Str. XV, Locus B8036. The stone was described in the records as ‘very soft and powdery’ which does not suggest an Egyptian stone vessel type. Another bowl fragment made of a ‘moderately soft stone’ was also found in the same locus, but again does not suggest an Egyptian import.⁷⁴

4.6. Lachish

4.6.1. Beads

Many carnelian and faience beads come from EB Lachish, particularly from Area 1500 and 6000 tombs. The shapes are biconical, barrel through tubular and disk, with biconical carnelian beads in particular abundance (Tufnell 1958: pl. 29.21). Graves with beads included the mixed EB III-IV/MB Tomb 1513 and EB I-III Tomb 1535; both had a quantity of simple carnelian disk and barrel beads (Tufnell 1958: pl. 29.6 and 21). The mixed nature of these tomb deposits means that identifying when the beads arrived, if they are Egyptian, remains problematic. The carnelian barrel beads from EB Tomb 1535 (Tufnell 1958: pl. 29.21) find good parallels in OK Egypt and may be imports. As with bead types from Bab edh-Dhra, the extent of local beadmaking and the extent of imported raw materials needs more research.

⁷⁴ <http://www.cobb.msstate.edu/dignew/FieldI/htmls/B8.htm>

Shell beads were identified in EB I-III contexts, including several Red Sea species. A gold bead also came from Locus 1535 (Tufnell 1958: pl. 29.17).

4.6.2. Stone vessels

A fragment of Chephren diorite with possible traces of a cartouche was unstratified (Tufnell 1958: 75). Although the stone is sporadically known from the ED, the main *floruit* of use was the OK (Aston 1994: 62-4; Aston et al. 2000: 33-4). A second ED-early OK stone vessel fragment was found on the surface in Area 1500, as was a palette fragment (Tufnell 1958: 253, pl. 26.9-10; for the vessel, compare Aston 1994: 131). The context of both fragments is meaningless and hence the pieces cannot be used as evidence of contact with Egypt in the Early Bronze Age (contra Andelkovic 1995: 53; on this, see Phillips 1992: 177).

4.7. Tel Erani

The EB II-III material from Tel Erani still awaits publication. The EB IB is better-known, thanks to the work of Yeivin, Kempinski and Brandl (summarised in Brandl 1989). No Egyptian pottery was observed in any EB III loci examined by the writer.

4.7.1. Palettes

Two palettes are published in Yeivin 1961: pl. 5, lower right (see also Jacobs 1996: n. 4) but they do not fit precisely into the repertoire of Egyptian palettes on the basis of shape and technology. One was made of mica schist, a stone known in Egypt, not Canaan (Aston et al. 2000: 45), but the palette is not an obviously Egyptian type. This may be a local product made from an imported stone, or perhaps an Egyptian import.

4.7.2. Stone vessels

[123] *IDAM 96-1810* (Fig. 20) Sherd from the shoulder of a stone jar, carved from black and white hornblende diorite or andesite porphyry. Smoothed and lightly buffed exterior. Interior surface uneven with faint traces of horizontal drill marks. Ht 4.0cm W. 5.1cm Th. 1.4cm (max.) to 0.7cm (min.).

Prov.: Area D, Locus Square 8C10i, Basket 43/23.

Date of deposit: EB III (?) (Brandl pers. comm. 8/7/00).

Date of object: ED to 3rd Dynasty.

Parallels: Possibly Reisner 1931a: fig. 39.3.

Comment: The sherd is from the shoulder of a jar, but the shape cannot be reconstructed with any confidence. If the stone is andesite porphyry, this

would suggest a vessel dating to the 1st-3rd Dynasties; various forms of hornblende diorite were used throughout the OK (Aston 1994: 170).

4.8. Tel Yarmuth

Tel Yarmuth is located 25km southwest of Jerusalem in the Shephelah. The tell covers 16 hectares, with Early Bronze Age I-III remains, along with Byzantine levels. Initially investigated in 1970 by Professor Ben-Tor of Hebrew University, Jerusalem (Ben-Tor 1975), over the last 25 years the site has been systematically excavated by Dr Pierre de Miroschedji (CNRS) (de Miroschedji 1988; 1993; 1999; 2006 and references). The importance of this site stems from its almost continuous occupation from the EB I to III. The EB III deposits are particularly extensive, spanning early the EB IIIA to EB IIIB (de Miroschedji 1999), with evidence of a major urban centre that probably controlled or at least dominated the economic and social life of south western Canaan (de Miroschedji 2006). A quantity of Egyptian and egyptianising material comes from EB II and EB III deposits. EB II material, consisting mostly of stone vessel fragments, is discussed in Chapter 2.3.10.

4.8.1. Beads

A long biconical carnelian bead (CNRS Cat. No. H.134001) was found in Palace B, Locus 1636, on a floor (Stratum B-1). Dated to the EB IIIB, the bead is well made and carefully finished, and may be an Egyptian import (Sowada n.d.).

4.8.2. Palettes

[124] *CNRS Cat. No. C.14062-1* (Fig. 19, Pl. 14) Rectangular greeny-grey slate palette, slightly chipped along one edge but otherwise complete. Vertical sides with gently bevelled edges all round, slightly concave surfaces. Some surface wear in the centre of one side. Smoothed but not polished surface. Complete. L. 9.8cm W. 6.3cm Th. 1.5cm.

Prov.: Chantier Bd (Palace B area), Locus 1805 floor a. Absolute height 54.43 m, Stratum B-2.

Date of deposit: EB IIIB.

Date of object: 1st Dynasty, up to the reign of Den (Spencer 1980: 79).

Parallels: Petrie 1914: pl. 24.90r (Naqada IIIB); Kroeper 1996: 79-81, fig. 8, nos 322-1430 (ED) and nos 220 and 758 (Dynasty 0); Emery 1958: 83, pl. 101.b; a palette from the tomb of Horus Aha has curved sides and surfaces, and is made of 'greenish schist': Emery 1939: 65-6, fig. 49.4 (Aha); Klasens 1958: 54, fig. 21.5, with squared-off edges, similar to the Yarmuth example. For a 1st Dynasty palette with sharply bevelled edges, see Klasens 1960: 93-4, fig. 22.1.

Published in: Sowada 2000: 1531, figs 2b, 3g; Sowada n.d.

Comment: The best parallels come from ED graves at Minshat Abu Omar, where plain rectangular palettes were found in 1st-mid 2nd Dynasty burials. The palette was found on a floor in an EB IIIB deposit, a date later than available parallels.

[125] *CNRS Cat. No. C.9597-1* (Fig. 19) Thick, roughly rectangular fragment of an olive-green schist or siltstone palette. Broken all around the edges. L. 9.3cm W. 7.8cm Th. 2.2cm.

Prov.: Acropolis Sondage 1, Locus 1112 and 1129, Stratum 6 or 7.

Date of deposit: EB III.

Date of object: ED, probably 1st Dynasty.

Published in: Sowada 2000: 1531, no. 11, fig. 2a.

Comment: Related to **[124]**. Although the edges are broken, the thickness of the fragment places it with later types. The context was an erosion fill outside the city wall, which is not a reliable context and the EB III date is not certain. However, the deposit contained mostly EB III sherds (de Miroschedji pers. comm.).

4.8.3. Stone vessels

[126] *HU Reg. 191* (not illustrated) Body sherd of vessel of indurated limestone. Dimensions unknown.

Prov.: Area B-north, Locus 784 (stratum II).

Date of deposit: EB III, although two Byzantine sherds were found in the vicinity of wall W501 in this strata.

Date of object: OK (?).

Published in: Ben-Tor 1975: 72, n. 26.

Comment: Petrography confirmed the identification of this and **[127]**. Ben-Tor describes them all as imported from Egypt (Ben-Tor 1975: 72, n. 26). The use of indurated limestone lasted from the ED to the 4th Dynasty (Aston 1994: 40). This and other stone vessel pieces from Ben-Tor's excavations were all found in Stratum B2 immediately antecedent to the palace (see Ben-Tor 1975: fig. 2-4, compare to de Miroschedji 1993: fig. 5). A single quartz crystal is said to have come from an Egyptian stone vessel (Ben-Tor 1975: 72, n. 26), but this piece is too small to be of value.

[127] *HU Reg. No. 38* (not illustrated) Body sherd of a vessel of porphyry. Dimensions unknown.

Prov.: Area B, Locus 768, in the fill between walls W501 – W506.

Date of deposit: EB III based on the pottery from this locus (see Ben-Tor 1975: 69-70).

Date of object: ED to OK.

Published in: Ben-Tor 1975: 72, n. 26.

Comment: The precise kind of porphyry was not stated in the report. Varieties of porphyry were used for stone vessel production from Naqada III to the OK (Aston 1994: 22).

[128] *CNRS Cat. No. C.5518-1* (Fig. 21, Pl. 15) Fragment of a green lapilly tuff or micro breccia bowl, flat internal ledge rim with a concave underside, convex walls. Hard stone, large clasts clearly visible. Smoothed and polished to a dull sheen all over. D. approx. 31.0cm Ht of sherd 1.6cm L. (across rim) 1.7cm.

Prov.: Chantier C, Locus 203A: The 'location of the find precludes any contamination by Pit 221... it was found close to the floor, but not necessarily on it (de Miroschedji pers. comm. 31/1/96). Absolute height 53.17/52.77m, Stratum C-3B.

Date of deposit: EB IIIA.

Date of object: 2nd-3rd Dynasty.

Parallels: **[129, 143]**, Amiran 1970a: 175-7, fig. 6.3; Garstang 1904: pl. 8.4. Note the variety of stone types used: pl. 7.

Published in: de Miroschedji 1988: 88, pl. 48.11, pl. 26.1; Sowada n.d.

Comment: The walls are thin and diameter wide (31cm.), indicating a large, finely made bowl, with no evidence of the rim having been re-worked. The vessel has few Egyptian stone or pottery parallels. Lapilly tuff or volcanic micro-breccia is a meta-pyroclastic rock 'typically found in the Neoproterozoic Arabian Shield, in particular in the Central Eastern Desert of Egypt (south of latitude 26°). Similar rocks also occur in southeast Sinai and many portions of Arabia' (Dr A. Shimron, Geological Survey of Israel, Report 14/7/97; de Miroschedji n.d.). Wide stone bowls with flat-topped rims are known in Egypt, but internal ledge rims are rare. A flat-rimmed bowl with a slight internal ledge is known from a Giza 3rd Dynasty tomb (el-Khouli 1978: 429, pl. 97, no. 3123; 463, pl. 99, no. 3446). A bowl from Reqaqna with a truncated internal ledge rim comes close to **[128]** (see parallels above).⁷⁵ From 3rd Dynasty Naga el-Deir, a limestone bowl has a sharply inverted rim oblique to the wall,⁷⁶ but not flattened (Reisner 1932: 209, fig. 114, N547/7).⁷⁷ A taller diorite example of possible 3rd Dynasty date was found at Giza (Reisner 1931a: 186, fig. 56.13).

Von Bissing notes several vessels made of red breccia and 'alabaster' with similar rim shapes, but the accuracy of his profiles are questionable (von Bissing 1904: 30-1, 103-4, pl. 7, nos 18183, 18206-10, 18511). These apparently date from the OK through to the Late Period and are largely without provenance. The only precise, reliable stone parallel known to the

⁷⁵ Note the variety of stone types used (Garstang 1904: pl. 7).

⁷⁶ Mace draws a ledge rim type but the parallel cited does not support his typology (Mace 1909: 43, fig. 99.2).

⁷⁷ For Reisner's dating of this and related graves, see 1932: 182.

writer is the limestone bowl from Ai [143]. The rim shape is also identical to a common ceramic bowl shape of the EB II-IIIa at Tel Yarmuth (de Miroschedji 1988: pl. 23.20 [EB II], pl. 25.6 [EB II], pl. 27.1 [EB IIIa] and pl. 37.3 [EB IIIa]), Arad Stratum IV-I (Amiran 1978a: pl. 8.2 [Stratum IV], pl. 13.41 [Stratum III], pl. 23.20 [Stratum II] and pl. 52.18 [Stratum I]), and Bab edh-Dhra (Rast and Schaub 2003: 42.4).

This vessel should be regarded as an Egyptian copy of a Canaanite vessel type. C.5518-1 was found in close proximity to the EB IIIa 'White Building', on Floor 203A at the southern end of Area C, dating to the EB IIIa. An EB IIIa date for the context fits Egyptian 3rd Dynasty parallels, when more exotic stones were used for stone vessels.

[129] *CNRS Cat. No. C.6625-1* (Fig. 20) Fragment of a green lapilly tuff or micro breccia bowl, body sherd only; slightly concave shape. Delicately polished interior and exterior surface. L. sherd 2.9cm Th. 1.1 cm.

Prov.: Chantier C, Locus 265-1. Absolute height 52.62/52.50m, Stratum C-4.

Date of deposit: EB IIIa.

Date of object: 2nd-3rd Dynasty.

Published in: de Miroschedji 1988: 88, pl. 48.12; Sowada n.d.

Comment: This is a body sherd of [128], possibly from the base. It was found in an EB IIIa deposit (Stratum C-4), close to a floor if not on it.

[130] *CNRS Cat. No. C.5971-1* (Fig. 19) Body sherd of a vessel, probably a bowl, of green to pale blue-green fine volcanic tuff. Concave shape, smooth but not polished on the exterior surface, very smooth on the interior surface. L. 4.2 cm W. 3.1 cm Th. 0.6 cm.

Prov.: Area D, Loc. 343, layer 1 floor a, absolute height 51.30/51.03m, Stratum 5-7.

Date of deposit: EB IIIa.

Date of object: 1st-3rd Dynasty.

Parallels: Aston 1994: 25-7, pl. 5c.

Published in: Sowada n.d.

Comment: This sherd comes from an Egyptian volcanic tuff vessel (A. Shimron, Report 14/1/97) of the ED. It belongs to a wide stone bowl with a countersunk base, common in the 1st-2nd Dynasties, and possibly into the 3rd (Aston 1994: 26-7; Aston et al. 2000: 60-2). It was found in an EB IIIa context on a floor in Area D, a region to the north of the 'White Building'.

[131] *CNRS Cat. No. C.9516-1* (Fig. 21, Pl. 15) Fragment of a circular offering table or disk in fine, densely crystalline green-black gabbro. The upper side is flat and highly polished, and the underside less well-finished. Ht 3.3cm L. 6.4cm W. max. 4.2cm.

Prov.: Chantier Acropolis 1, Locus 1109, Absolute height 93.20 m, Acropolis Phase 5.

Date of deposit: EB IIIA.

Date of object: 1st-4th Dynasty.

Parallels: [158] from Byblos; see also Aston 1994: 132, no. 110.

Comment: The fragment bears a slightly serrated edge that is so sharp that re-use of the fragment as a tool is possible. The outer edge has a slight curve, but it is so shallow that the complete object, almost certainly an offering table or disk, was very large. In Egypt, offering tables range from rectangular slabs bearing relief decoration for tomb chapels to stemmed flat-topped circular tables. A related type are large, flat unstemmed 'table tops' and disks (el-Khouli 1978: stemmed tables pls 123-6, table-tops pl. 127, nos 5470-5491 and 5508; 4th Dynasty stemmed tables, see Reisner 1931a: 178, fig. 43.14; Reisner 1942: 498-9, fig. 304c, Tomb G 4631, Reg. 14-1-44).

Inscribed travertine examples with profiles similar to C.9516-1 dated to the OK were found at Byblos [158]. From the 1st to 3rd Dynasties and into the OK, such objects are almost always made of travertine or less often, limestone. Only a very few examples in schist, gneiss and porphyry occur (el-Khouli 1978: stemmed tables 699, pl. 125, nos 5436, 5438, 5440 [schist-1st Dynasty]; 702, pl. 125, no. 5441 [porphyry-3rd Dynasty]; 708, pl. 127, no. 5482). C.9516-1 was found associated with EB IIIA pottery in a secure deposit that sealed a plaster floor (Locus 1110). Locus 1109 is regarded as 'floor material', dated to Acropolis Phase 5.

[132] *CNRS Cat. No. C.10073-1* (Fig. 21, Pl. 15) Fragment of a travertine bowl; incurved rim, with an internal sloping edge. Highly polished interior and exterior surfaces. D. approx. 24.0cm Ht of sherd 3.6cm Th. 0.8cm.

Prov.: Chantier G, Locus 1216-2, under a floor, absolute height 51.54/51.37m, Stratum G-2B.

Date of deposit: EB IIIB.

Date of object: ED-early OK.

Parallels: [163] from Byblos; [139-40] from Ai; el-Khouli 1978: 406-8, pl. 95, nos 2864-98 (1st-3rd Dynasty); Reisner 1931a: 171, Type 3-Xd, fig. 41.18 (3rd Dynasty). Reisner believed the earlier types to have 'a greater width in proportion to the height and a smaller base in proportion to the width of the mouth': Reisner 1931a: 160; Amiran 1970a: 177-9, fig. 6.5-6. Travertine bowls with recurved rims are also known from the stone vessel repository from Reneferef's funerary complex (Vlčková 2006: pl. 147).

Published in: Sowada n.d.

Comment: The rim diameter and straight wall points to a large, finely made bowl with a tall, deep profile. The combination of stone type, shape and relative proportions of form suggests an earlier rather than very late date for the fragment. Plain rather than sloping recurved rims become more common on bowls during the OK (Spencer 1980: 18). However, the sloping recurved rim in travertine occurs in the 3rd and 4th Dynasty at Giza, Elkab, Abusir, Saqqara (Step Pyramid Gallery B) and Naga el-Deir (Aston 1994: 112-4;

Reisner 1942: 472, fig. 285, Tomb G 4340, Reg. 13-10-10; 476, fig. 287, Tomb G 4440, Reg. 13-11-97; 483, fig. 291, Tomb G 4640, Reg. 13-12-6). Taller examples of Chephren diorite are frequent in later contexts at Giza, such as Tomb G 2001B, D and G 2347 aB, dated to the 6th Dynasty (Reisner and Smith 1955: 101, fig. 147, Regs 36-3-21, 36-3-23 and 35-11-37, Type OK Xc).⁷⁸

This sherd was found in Chantier G, outside the walls of Palace B. The deposit was a fill layer ascribed to Stratum G-2B, dated to the EB IIIB, equated with the mid to late OK.

[133] *CNRS Cat. No. C.13182-1* (Fig. 20) Thick-walled body sherd with a convex profile, belonging to a basalt vessel, probably a squat jar. Dense coarsely crystalline stone. L. 6.8cm W. 5.3cm Th. 1.8-2.1cm.

Prov.: Area Ba, Locus 93-2, Stratum B-1.

Date of deposit: EB IIIB.

Date of object: possibly 3rd or 4th Dynasty.

Comment: The thickness of the sherd suggests that it came from a thick-set squat shouldered jar with a wide rim known from the ED or early OK (Aston 1994: 131, no. 108). Basalt was also used in the 3rd-4th Dynasty for full-size stone vessels; in the later OK it was fashioned into model vessels belonging to 'Opening of the Mouth' sets (Aston 1994: 21). This fragment was found slightly above the floor level in a stratum that corresponds to the main courtyard of Palace B. The context was sealed by topsoil.

4.8.4. Pottery

A locally-made bowl or 'ecuelle' (Cat. No. C.6521-1) with a plain exterior and red-slipped interior was incised post-firing with the remains of a probable *serekh* (de Miroschedji 1988: 86, 236-7, pl. 47.8, pl. 23.4). The orientation of the pot-mark is such that the mark was placed sideways. The sherd was found on a floor in Area C, Level IV(V) dated to the EB IIIA (de Miroschedji 1988: 236-7). If truly a *serekh*, its presence at Tel Yarmuth has similar implications to the EB II inscribed jug from Beth Yerah (Greenberg and Eisenberg 2002; Ch. 2.3.5).

4.8.5. Raw materials

A small rough fragment of pale blue turquoise (Cat. No. C.9205b-1) was found in Chantier Cne, Locus 1044-1, on or close to a floor surface in an area close to the White Building, dated to the EB IIIA (Sowada n.d.). Whether the

⁷⁸ The drawing of 35-11-37 does not suggest a precise parallel despite Reisner's attribution.

piece is a portion of raw material, or a broken part of a larger undefined object cannot be determined.

As the nearest turquoise source was the Sinai (Ch. 7.2.2), this piece was evidently imported from the region. Sinai inscriptions show that 3rd and 4th Dynasty kings were actively exploiting mines in the region, so possibly this piece came from one such source, or passed through the hands of local Sinai inhabitants on its way to Canaan.

4.8.6. Architectural features

De Miroschedji identified the use of the Egyptian cubit (52.2-52.5cm) as a unit of measurement in the EB IIIB Palace B administrative complex (c. 25th century BC = 5th Dynasty: de Miroschedji 2001b). The use of this measure is hitherto unattested in Canaan, but was used in Egypt from the 3rd Dynasty (Helck 1980; de Miroschedji 1993: 836). In addition to the cubit measurement, an orthogonal grid system was used in the building's construction. The internal square buttresses of the palace wall are paralleled in monumental architecture at EB I-III Byblos (Dunand 1939: pl. 19.2; de Miroschedji 1993: 836-7, de Miroschedji 1999: 10).

4.8.7. Discussion

Stone vessel fragments dominate the Tel Yarmuth corpus, but unlike the vessels from Ai, they are scattered over different areas of the site. Moreover, they are small pieces only, as opposed to more complete vessels. A palette [124] and several stone vessel fragments [126-7, 133] were found in the vicinity of Palace B, signifying their possible importance as a luxury import or an elite gift. Like Ai, the vessels are almost all bowls, which would preclude their use as containers for commodities. The gabbro offering table fragment from the Acropolis [131] strongly recalls similar pieces from Byblos [158]. The material largely clusters in the EB IIIA, with only one fragment, a 3rd Dynasty green lapilly tuff bowl [128] offering any possible chronological synchronisms with Egypt. At least one vessel fragment, [130], is probably from an ED stone vessel.

4.9. Jericho

There is little material at EB III Jericho that can be positively identified as Egyptian (Rast 1980: 10). However, the following evidence is worth noting. Many beads in a range of materials, including shell, carnelian, ostrich shell, calcite, frit or faience, bone, crystal and other stones, were found on the tell and EB II-III tombs. They include disk and barrel shaped carnelian and frit/faience beads from Tombs F2 and F3 (Kenyon 1960: 155-6, fig. 55 and 172-3, fig. 65). Indeed, a shell pendant almost identical to one found at Bab

edh Dhra (see Fig. 19 [110]) was found in Tomb F4 but the shell type is unknown (Kenyon 1960: 145-6, fig. 48.4). A number of the bead stone types are not identified (e.g. Kenyon 1960: 125-6; Kenyon and Holland 1983: 796-8). Secondly, a rectangular palette with a drilled hole came from Tomb D12, but is described only as 'stone' (Kenyon 1960: 124-5, fig. 40.3). The tomb's disturbed mixed deposits mean that a specific date in the EB cannot be determined.

4.10. Ai (et-Tell)

The Egyptian objects at Ai (et-Tell) represent probably the best-known corpus of EB II-III *aegyptiaca* from Canaan. Found by Marquet-Krause in the Sanctuary, this material is the temple's cultic equipment, and includes Egyptian stone vessels, egyptianising cups and other objects of certain Egyptian origin. Amiran suggested the stone vessels were old temple equipment or heirlooms dating to the EB II, probably from the Acropolis temple (Amiran 1970a; 1972). Callaway disputed this, preferring an EB IIIA (Stratum VI) date for the material, in accordance with the date of the contexts (1972: 300). Owing to their importance, the vessels are worth re-examining from a typological and stratigraphic perspective. The Israel Department of Antiquities (IAA) or Hebrew University (HU) number is noted first, followed by Marquet-Krause's (MK) original excavation number.

4.10.1. Beads

Almost no beads of exotic materials were noted by Marquet-Krause and Callaway in the EB III levels, and none are illustrated in Marquet-Krause's publication from any deposits, making the identification of shapes and materials difficult. Callaway published a carnelian disk bead in Phase VI (Callaway 1980: 183, fig. 115.33) but the shape is too generic to be of value to identify it as an import.

4.10.2. Palettes

A trapezoidal 'diorite' palette with possible traces of an incised line around the edge was found on a 'pile of stones north of the palace' in Area G (Marquet-Krause 1949: 60, pl. 38.482). Further identification of the object was not possible.

4.10.3. Stone vessels

[134] IAA 36.583 and 36.586 (MK 1484 & 1485) (Fig. 22) Upper and lower body of a travertine ovoid segmented jar, separated horizontally through the centre. Unbroken flat, horizontal edges at the top and bottom indicate that base

and rim pieces are missing. Vestigial vertical handle on upper body. Polished surface, severe smoke damage on both sections. Ht approx. 21.6cm.

Prov.: Sanctuary A, Room 116 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: Probably 1st Dynasty 'from Djer on' (Amiran 1970a: 173).

Parallels: Segmented ovoid jars, some with sections in basalt and travertine:⁷⁹ Emery 1954: 165, fig. 224 (1st Dynasty); el-Khouli 1978: 239-40, pl. 67, nos 1629, 1631 (1st Dynasty); 298, pl. 79, no. 2024 (2nd Dynasty); vessels with a separate rim section, see Reisner 1931a: fig. 40.4-5, 7.

Published in: Marquet-Krause 1949: pl. 66; Hennessy 1967: pl. 56.12-3; Callaway 1972: 310, figs 70.1, 71.3; Amiran 1970a: fig. 1.

Comment: This is a 3 or 4-segmented vessel, for which no comparable parallels are known, although a segment of such a vessel might be identified from the Menkaure temple (Hennessy 1967: 70; Reisner 1931a: fig. 50.20). Closest examples are ED ovoid jars made in two sections. Amiran also notes good ceramic parallels from EB II Arad for the vestigial vertical handle (1970a: 171), but the feature also appears on EB III ceramics (Tufnell 1958: pl. 14.21). Segmented squat spheroidal jars were also produced during the 3rd Dynasty, with only the rim added as a separate piece fitting into a sharp-edged shoulder, but by the 4th Dynasty this practice appears to have died out (Reisner 1931a: 168, fig. 40.4-5).

[135] *HU 5340 (MK 2366)* (Fig. 22) Thick walled travertine cylinder jar, flat external ledge rim, concave sides flaring toward the flat base. Edges of the base rounded; possibly the edges were originally slightly more flaring, but now broken away. Smoke damaged on exterior surface. Ht 8.4cm.

Prov.: Sanctuary A, Room 116 (Area H), 'in the niche of the south wall' found with the neck of the zoomorphic vessel Reg. 1498 (Callaway 1972: 301-4).

Date of deposit: Phase VIII, EB IIIB.

Date of object: 1st Dynasty-early OK (?).

Parallels: Reisner 1931a: figs 43.1, 46; el-Khouli 1978: 62, pl. 23, no. 438 (1st-3rd Dynasty).

Published in: Marquet-Krause 1949: pl. 66; Hennessy 1967: 70, pl. 56.10; Amiran 1970a: fig. 4; Callaway 1972: 310, fig. 71.1.

Comment: The rounded rim suggests a 1st-3rd Dynasty date (Aston 1994: 100) but this type of cylinder jar with concave sides and a flaring base has an extremely wide date range (Amiran 1970a: 174).

[136] *IAA 36.581 (MK 1498)* (Fig. 22) Rim and neck of a carved travertine vessel, everted rounded rim, raised decoration on neck resembling binding. Surface severely smoke damaged. Ht approx. 6.0cm D. rim approx. 9.6cm.

⁷⁹ The use of two colours in this way had a particular symbolic meaning (Sowada 1999).

Prov.: Sanctuary A, Room 116 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: Probably ED – late 1st Dynasty/2nd Dynasty (?).

Parallels: The banded travertine food case in the form of a trussed fowl, 25.5cm. long, dated to the 3rd Dynasty, *Sotheby's Catalogue of Antiquities and Islamic Art*, 29 May, 1987 (New York).

Published in: Marquet-Krause 1949: pl. 186.1458; Hennessy 1967: pl. 56.14; Amiran 1970a: pl. 41B; Callaway 1972: 310, fig. 69; Amiran 1972: 9-13; Amiran 1989: 54-5, fig. 3.

Comment: Amiran reconstructs the sherd with fragments of a zoomorphic vessel [137]. The body and rim sherds have been mended to form one vessel, a probable reconstruction, given the carved ties binding both the neck and legs, but it is a reconstruction that poses problems. For example, the rim sherd is very badly smoked damaged but the body sherds are not. Secondly, the rim and body pieces were found in different contexts: [136] from Room 116, and the body sherds in Room 120. This suggests the pieces were involved in separate archaeological episodes that affected the surface in differing ways. If the fragments do belong to the same vessel, then by the time the rim was damaged by fire, the vessel was already broken.

[137] IAA 36.592 (MK 1459) (Fig. 22) Fragments of a travertine zoomorphic vessel representing a trussed animal, polished exterior surface. Two back legs, tail, body fragments and one foreleg with bindings extant. Probably belongs to a stone waterskin, joining with [136]. No smoke staining on surface. Measurements not available.

Prov.: Sanctuary A, Room 120 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: Probably ED - late 1st /2nd Dynasty (?).

Parallels: Petrie 1900: 28, pl. 38.3, cited as 'a marble waterskin' but probably made of indurated limestone. Petrie stated that the vessel was 'found in many pieces about the tomb of Mersekha' [Semerkhet] (Petrie 1900: 28).

Published in: See [136] above, but also Callaway 1972: 300-1, 325, fig. 78.1.

Comment: Stone zoomorphic vessels have a long history in Egypt, but their typological development is not well-understood. They are known from the Predynastic Period onward, when they appear in hard stones in the form of frogs, fish, ducks and other animals (e.g. Manniche 1999: 42, 50; Hendrickx 1994: 38-9). In the later OK, lidded zoomorphic stone vessels in the form of various foods, including trussed ducks, probably contained the mummified or dessicated remains of those animals (D'Auria et al. 1988: 93-4).

Callaway believed the Ai vessel belonged to the late 2nd-3rd Dynasty (1972: 301), but his basis for this assertion is weak. The parallel from Abydos for [136-7], smaller in size, dates to the late 1st Dynasty, although the context could hardly be described as secure. This may help place the Ai vessel in the

ED, but it must be said that little is known about the dating of these types generally.

[138] *IAA 36.588 (MK 1491)* (Fig. 23) Wide shallow bowl, fragmentary, convex sides, plain rounded rim and flat base. Pink limestone. D. 30.0cm.

Prov.: Sanctuary A, Room 116 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: 1st Dynasty to early OK (?).

Parallels: el-Khouli 1978: 616-8, no. 4809 (2nd-3rd Dynasty).

Published in: Marquet-Krause 1949: pls 53, 66; Hennessy 1967: pl. 56.5; Amiran 1970a: fig. 6.4; Callaway 1972: 310, fig. 70.4.

Comment: The dish does not have the countersunk base as suggested in the drawing of Marquet-Krause (Callaway 1972: 302). Reisner notes that 'round-bottomed platters and bowls have almost disappeared in Dynasty III (1931a: 168; Hennessy 1967: 69); Spencer on the other hand noted that round bases are found to the end of the 6th Dynasty (1980: 18). Dating such types is difficult (Spencer 1980: 18), although the pink stone suggests an earlier rather than later date. Callaway's suggestion that the incense stands from the Sanctuary belonged to the platter (1972: 302) is not plausible.

[139] *MK 514 & 692* (Fig. 23) Fragments of a tall travertine bowl, recurved rim flattened on the inside edge, convex walls, flat base with incised circle on the interior. Ht approx. 15.2cm D. rim approx. 34.0cm D. base 11.2cm.

Prov.: Temple A, Locus 42, Acropolis Area (Area G).

Date of deposit: Phase VI, early EB IIIA (Callaway 1972: 248-9).

Date of object: Bowls with an incised circle on the base belong to the late 1st Dynasty–2nd Dynasty, but the type occurs both earlier and later but in reduced numbers (Spencer 1980: 18). Hence the *floruit* of this type should be placed in the late 1st-2nd Dynasty, but dates on either side are also possible.

Parallels: **[132]**; Reisner 1931a: figs 30.17, 35, 10, 41.6; el-Khouli 1978: 453, pl. 98, no. 3351 (3rd Dynasty); Berman 1999: 90, no. 19.

Published in: Amiran 1970a: pl. 43A, fig. 6.5.

Comment: This vessel was not found during a recent search of the holdings of the Israel and Rockefeller Museums, Jerusalem.

[140] *MK 344 & 399* (Fig. 23) Fragments of a travertine bowl, high walls, slightly convex but straighter than **[139]** above, recurved rim with a sloping edge, flat base, with a lightly incised line encircling the rounded base. Ht approx. 10.0cm D. rim approx. 20.0cm D. base approx. 10.0cm.

Prov.: Temple A, Locus 22, Acropolis Area (Area G).

Date of deposit: Phase VI, early EB IIIA (Callaway 1972: 248-9).

Date of object: This bowl differs from the one above in that the circle is only lightly traced on the rounded base inside the bowl. This may suggest a 2nd-3rd Dynasty date (Spencer 1980: 18).

Parallels: [132]; Reisner 1931a: fig. 41.7; el-Khouli 1978: 454, pl. 98, no. 3360 (1st-2nd Dynasty); close to Berman 1999: 90, no. 19.

Published in: Amiran 1970a: fig. 6.6.

Comment: Like [139], it was found in the Acropolis Area. According to Callaway, both [139-40] 'were found in rooms filled with rubble in the EB IIIB phase of the temple, at the time Sanctuary A was established at the Citadel, confirming stratigraphically that they were used in the EB IIIA temple when the Sanctuary A vessels were also used there if our reconstruction is correct' (Callaway 1978: 51). This vessel was not found during searches of the Israel and Rockefeller Museums, Jerusalem.

[141] *HU 5424 (MK 1520)* (Fig. 23) Wide shallow travertine bowl, recurved rim with a sloping edge, convex walls and a flat base, with an incised circle around the interior flat base. Traces of smoke damage on the exterior. Mended from fragments. Ht 6.6cm D. rim 30.0cm D. base 9.0cm.

Prov.: Sanctuary A, Room 116 (Area H), behind the southwest door (Callaway 1972: 313).

Date of deposit: Phase VIII, EB IIIB.

Date of object: The combination of sloping recurved rim and incised circle on the interior suggest a late 1st to 3rd Dynasty date (Spencer 1980: 18).

Parallels: Reisner 1931a: fig. 35.6; el-Khouli 1978: 591-2, pl. 110, nos 4591-4600 (1st-3rd Dynasty).

Published in: Marquet-Krause 1949: pl. 23; Amiran 1970a: fig. 6.2, pl. 43B; Callaway 1972: 310, fig. 70.2.

[142] *LAA 36.587 (MK 1489)* (Fig. 23) Wide shallow travertine bowl, recurved rim with a sloping edge, straight walls and a flat base. Interior flat on the base, encircled with a lightly incised circle. D. rim 31.0cm.

Prov.: Sanctuary A, Room 116 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: The combination of sloping recurved rim and a lightly incised circle on the interior suggest a late 1st-3rd Dynasty date (Spencer 1980: 18).

Parallels: Possibly [163] from Byblos; Reisner 1931a: fig. 35.7; el-Khouli 1978: 590-1, pl. 110, nos 4579-90 (1st-3rd Dynasty).

Published in: Marquet-Krause 1949: pl. 66.1489; Amiran 1970a: fig. 6.1; Callaway 1972: 310, fig. 70.3.

[143] *HU 5275 (MK 1475)* (Fig. 23) White-grey limestone bowl with a flat ledge rim, undercut on the interior, flat base. Ht 3.0cm D. rim 14.0cm D. base 10.0cm.

Prov.: Sanctuary A, Room 116 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: 3rd Dynasty (if made in Egypt).

Parallels: [128]; Garstang 1904: pl. 8.4.

Published in: Amiran 1970a: 177, fig. 6.3.

Comment: Amiran identified the bowl as a Egyptian copy of a Canaanite type (Amiran 1970a: 177) with the closest parallel being the Egyptian fragment [128] from EB IIIA Tel Yarmuth. The same cannot be said for [143]. Firstly, limestone was locally available and it is possible the vessel was made at Ai. Secondly, there is a close resemblance between the rim shape and the Canaanite ceramic repertoire, while a precise parallel for the rim is unknown in Egypt in either stone or ceramic.

4.10.4. Pottery

A series of egyptianising cups with flaring sides and flat bases was discovered in Sanctuary A (Fig. 44) (Marquet-Krause 1949: pl. 52 bottom row, pl. 53; Callaway 1972: 321-2, fig. 73, 76). The group comprises variations of the same shape, with some showing signs of use. Blacking on the interior indicates that burning oil had been poured out or had caught alight. Other cups bear smoke patches on the surface, but none were affected in such a way as to suggest damage in a major conflagration.

The Ai ceramic vessels have close parallels in OK Egypt (Reisner and Smith 1955: 78, fig. 102; Aston 1994: 105, no. 37-8), but the fabrics are local rather than imported.⁸⁰ This material is further discussed in Ch. 8.7.

4.10.5. Other objects

‘Alabaster’ fragments of an animal figurine were found in the Sanctuary, suggested as that of a hippopotamus (Marquet-Krause 1949: 186, no. 1459; Hennessy 1967: 70). These fragments could not be re-examined. In addition, a ‘vase’ without a base could not be re-examined (Callaway 1972: 313, fig. 72.4).

[144] *IAA 36.600 (MK 1533)* (Fig. 24) Handle of a knife in ivory, with a curved pommel and decorated surface on either side consisting of an incised matting pattern, within a plain border. L. approx. 9.4cm W. 6.0cm Th. 1.5cm.

Prov.: Sanctuary A, Room 116 (Area H), ‘at the side of the niche of the south angle (of wall)’ (Callaway 1972: 313).

Date of deposit: Phase VIII, EB IIIB.

Date: 1st-3rd Dynasty. A date analogous to the rest of the material is probable.

⁸⁰ Hennessy was unsure if they were Egyptian or locally made (1967: 114, no. 27). The writer examined the cups in the Israel Museum, the Hebrew University Museum (Mt Scopus) and the Rockefeller Museum during several trips to Jerusalem in 1995 and 1996. Where possible, a section through the fabric was examined under a 10x hand lens. Other vessels published by Marquet-Krause could not be located.

Parallels: Hennessy 1967: pl. 57.1-3. These parallels, along with its association with other *aegyptiaca* in the Sanctuary, help secure an Egyptian origin for the object.

Published in: Marquet-Krause 1949: pl. 54.1533; Kantor 1956: 157; Hennessy 1967: 71, pl. 57.4; Callaway 1972: 302, 313, fig. 72.1.

Comment: Kantor believed that the surface design of the handle appeared in the 1st Dynasty and was no longer found after the 3rd, thus helping secure a similar date for the object (1956: 157, and n. 14; Hennessy 1967: 71; Callaway 1972: 302). However it must be said that comparative material is rare for both the ED era and the OK.

[145] HU 554I (MK 1505) (Fig. 24) Two bone or ivory comb fragments, with a wide back and short teeth, now broken. Both pieces are pierced towards the top edge. L. 6.0cm and 7.0cm.

Prov.: Sanctuary A, Room 116 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: 1st-5th Dynasty.

Parallels: From Tarkhan and Abydos cited in Hennessy 1967: pl. 57.5-6; Adovasio and Andrews 1982: 68-9, fig. 4-5 (Bab edh-Dhra).

Published in: Marquet-Krause 1949: pl. 54.1533; Kantor 1956: 157; Hennessy 1967: 71, pl. 57.4; Callaway 1972: fig. 77.3.

Comment: These comb fragments have good Egyptian parallels. Along with the association with other *aegyptiaca*, they are generally thought to be Egyptian in origin (Hennessy 1967: 71).

[146] MK 1497a-b (Fig. 24) Two small bone cones from a bead net dress, with convex sides, bearing incised decoration at the top and holes for piercing around the base. (a) Ht approx. 1.6cm D. approx. 4.8cm (b) Ht 2.0cm D. approx. 4.8cm.

Prov.: Sanctuary A, Room 116 (Area H).

Date of deposit: Phase VIII, EB IIIB.

Date of object: 5th Dynasty (?).

Published in: Marquet-Krause 1949: pl. 66; Hennessy 1967: 71, pl. 57.11-2; Callaway 1972: fig. 72.6-7.

Comment: Callaway described the objects as bowls or cups (1972: 303, 313). On the other hand, Hennessy rightly believed that Egyptian breast cones from a bead net dress offered the most plausible parallels in terms of size and function (1967: 71; see also Hall 1981: 39). However, as Callaway pointed out, this 'is not enough to support a theory of a dancing lady in the sanctuary' (1972: 303).

4.10.6. Architectural features

Callaway highlighted the influence of Egyptian building techniques at Ai, in conjunction with the stone vessels, as indicating that ‘Egypt control[led] Ai in some kind of political or economic relationship, or both’ (1972: 247; 1978: 47). He also claimed that the rebuilding of the EB IIIA city was deeply influenced under Djoser’s reign (1980: 306).

His argument hinges on the construction technique of the Phase VI EB II-EB IIIA citadel temple. Callaway pointed to the presence of ‘a coursed masonry wall...laid in mud mortar like bricks...faced with plaster’, bearing similarities with 3rd Dynasty funerary installations at Saqqara citing the written description of Firth and Quibell (1978: 52-3 n. 53). While this style of construction seems unusual when compared to the dry stone rubble filled walls of EB Canaan, relatively few cultic/administrative buildings from EB III Canaan have been excavated and published (Stager 1992: 36).

Callaway also pointed inconclusively to possible Egyptian influence in the saw grooves, ‘raised top column bases’ and the water storage system (1972: 247-8; 1978: 52-3). Other water storage systems have been discovered at Arad and Tel Yarmuth (Amiran and Ilan 1996: 106, 127-31). Mazar correctly describes these allusions to Egypt as ‘vague and unconvincing’ (1992: 149, no. 56).

4.10.7. Discussion

Amiran dated all the Ai stone vessels to the second half of the 1st Dynasty. However, parallels reveal that the assemblage has a wide date range, spanning the 1st-3rd Dynasty and possibly a little later. At least one vessel belongs to the 3rd Dynasty [143], others belong to the late 1st-2nd Dynasty [136-7, 139] and still another to the 2nd-3rd Dynasty [140]. For other vessels, the dates are broad [138, 141-2], but none of the vessels seem to go beyond the 3rd or 4th Dynasty at the latest.

Several explanations can be offered for the fact that these dates are earlier than the EB IIIB date of the Sanctuary A destruction context. Firstly, the material may have been removed following the destruction of an earlier temple at Ai (Marquet-Krause 1949: 19, n. 1; Amiran 1970a; Amiran 1972: 11), potentially the Acropolis temple (Area G), where two stone vessels were found in an EB IIIA deposit (Amiran 1971: 11; Callaway 1978: 50). Indeed, some of the objects from Sanctuary A are severely smoke damaged [134-6, 141], which might support this argument. However, not all the objects are thus affected [137-40, 142-3]; perhaps the undamaged items arrived at Ai after this destruction, or were located elsewhere at the site, away from the conflagration. Alternatively, the vessels may have arrived during the EB IIIB, drawn from an Egyptian stone vessel repository containing a mixture of older and newer vessels. If this were the case, one might expect more unambiguously 5th-6th

Dynasty types among the assemblage, but parallels point to the ED and early OK for all the stone vessels, with no obviously later shapes present. Other objects, like the comb, dagger and cones, cannot be definitively dated to the ED, owing to the lack of Egyptian parallels or the wide date range of the type. Some of these may be OK.

4.11. Gezer

Rowe reported a 'funerary statue of king Pepy I, of VIth Dynasty, said to have been found at Gezer', but this was unverifiable (Rowe 1936: d).

4.12. Tell Ta'anach

Albright first noted Egyptian architectural features from an EB IIIA tomb at Ta'anach, suggesting that the best parallels for the construction of the roof came from subterranean chambers Djoser's pyramid complex (Albright 1944: 15; Hennessy 1967: 73). Roofing of the tomb consisted of horizontal limestone slabs, a feature otherwise unknown in EB III Palestine. Roofing with rough stone slabs does appear from the 1st Dynasty and becomes more common in the 3rd Dynasty onwards (Sellin 1904: figs 35-6; Ward 1963: 20 n. 6).

Although Hennessy was more prepared to accept this parallel with Egypt (1967: 73-4), Ward found the analogies unsustainable (1963: 20-1). A larger corpus of EB II-III tombs from Canaan would be required before any direct architectural parallels between Tell Ta'anach and 3rd Dynasty Egypt could be seriously considered.

Several early OK stone vessel fragments were noted by the writer in the collection of material from Tell Ta'anach held in Ramallah (Palestine), but nothing further is known of their contexts at this stage.

4.13. Megiddo

4.13.1. Beads and amulets

During recent excavations, a group of beads and amulets were found in an unstratified EB context in the same Area J as the egyptianising pottery cache. The beads included carnelian biconical beads, faience disk and flattened circular types, possibly a jasper short cylinder bead, and two pendant beads of amulets (Finkelstein 2000: 388, fig. 12.27). The bead collection recalls a similar pendant from Deshasha dating to the 5th Dynasty (Petrie 1898: pl. 26.3). Two unstratified amulets (Pl. 15a) probably dating to the EB from Area J are made from 'alabaster' and malachite (Finkelstein et al. 2000: 388, fig. 12.27, nos 20 and 21) have good OK Egyptian parallels and may also be imports. Other objects are known from prior excavations, with carnelian barrel

beads and a faience amulet noted from Str. XVII and Str. XV respectively (Loud 1948: pls 207.5, 207.8).

4.13.2. Stone vessels

[147] *Chicago Field No. d 845* (Pl. 15) Base of a concave sided cup or jar (a *hes-jar?*), stone described as diorite. Loud also noted that ‘the inside bore [was] considerably off-centre’ (1948: pl. 262). Ht approx. 5.0cm D. base approx. 4.0cm.

Prov.: Square M 12, SE corner, Str. XVI.

Date of deposit: EB III.

Date of object: Probably OK.

Parallels: A similar base was found in Saghie’s Phase KIV at Byblos **[166]**.

Published in: Loud 1948: pl. 262.7.

4.13.3. Architectural elements

As with Yarmuth, de Miroschedji has identified the use of the cubit and an orthogonal grid system in the construction of the EB III temple at Megiddo (2001b: 482-5).

4.14. Beth Shean

J.P. Dessel, quoting Esse, cites the presence of an OK ceramic jar in an EB III context at Beth Shean (1991: 322). This now seems unlikely. The vessel, found in Room 1866, is described by Braun as possibly a late EB I egyptianised storage jar (2004a: fig. 3.27), but no analysis has been made of the fabric to confirm this (Braun pers. comm. 27/8/04).

4.15. Tel Yoqneam

A diorite ovoid collared jar (Fig. 24b) (IAA Reg. No. 19738) was ‘found by workmen on the northeastern slope of Tel Yoqneam in 1931’ (Ben-Tor 1970: 78). Ben-Tor dated it to the 2nd Dynasty on the basis of material and form (see Reisner 1931a: 180, 186, fig. 49 [travertine], fig. 56.15 [diorite]). As an unstratified vessel, the context is meaningless.

4.16. Yavne-Yam

Large bifacially pressure flaked flint knife was discovered on a beach at Yavne-Yam (Fig. 24a) (Gophna 1969: 80). It may have been washed up from the sea onto the beach after a storm, as it showed signs of weathering. The knife probably dates to the OK (Petrie 1903: 28, pl. 40.1 and 8; Petrie and Brunton 1924: pl. 22, 4-6th Dynasty, but the pottery suggests FIP-11th

Dynasty; Caton-Thompson and Gardner 1934: 125, pl. 79, nos 5-9; Macramallah 1935: 5, fig. 54 [early 6th Dynasty]; Verner 1988: 80-1, fig. 4).

Braun prefers an EB IB date on the basis that 'it seems more appropriate' (Braun et al. 2001: 80; Andelkovic 1995: 54-6). The parallels are unconvincing as the relatively straight back and square-shaped handle speak more persuasively of the OK (compare Fairservis et al. 1971-2: fig. 28:j.k.l and Schmidt 1992: figs 1, 3.1, pl. 4 with the parallels above). As an unstratified find, the object should be regarded in the same light as the axe head found near the mouth of the Adonis River (Ch. 5.2). No EBA remains exist at Yavne-Yam (Gophna 1969: 80), however the object may point to Egyptian coastal activity in the EB III, possibly as a stop on the Byblos run, either as an 'overnight' port or way-station servicing inland towns.

4.17. Beth Yerah (Khirbet Kerak)

This site, located south west of the Sea of Galilee, was been subjected to archaeological investigations since the 1930s (for a summary, see Greenberg and Eisenberg 2002). A substantial amount of material from the site is held at the IAA storerooms in Jerusalem and was examined by the author who observed Egyptian vessels from the earlier EB phases (Ch. 2.3.5; Greenberg and Eisenberg 2002).

4.17.1. Palettes

[148] *IAA 5I-3048* (Pl. 14) Siltstone palette with two incised lines parallel to the edges on one side, and a hole at the top centre drilled from both sides. Nearly complete, with chipping around the edges and damage on the shiny upper surface. L. 12.0cm W. 10.8cm Th. 0.6cm.

Prov.: Found on a floor of a room (Locus BS 060), from Local Stratum 9 in Area BS (Bar-Adon South). 'This is the fourth of six local phases belonging to Beth Yerah D (EB III)' (Greenberg pers. comm. 14/9/04).

Date of deposit: EB III.

Date of object: Naqada IIIB-C1.

Parallels: See **[109]**.

Published in: Bar-Adon 1957: 30-1, pl. iva; Sowada 2000: 1528, fig. 1b; Greenberg and Eisenberg 2002: 214, fig. 13.2.

[149] *IAA 5I-3348* (not illustrated) Half a siltstone palette with two incised lines parallel to the edges on one side. Slightly scratched surface. L. 6.3cm W. 8.5cm Th. 0.75cm.

Prov.: 'Locus BS 061 or 062; these are rooms belonging to Local Stratum 8, one phase later than 9. It is from a much less secure provenance than the complete item, and could easily have originated in Str. 9' (Greenberg pers. comm. 14/9/04).

Date of deposit: EB III.

Date of object: Naqada IIIB-C1.

Parallels: See [109].

Published in: Bar-Adon 1957: 30 (note only); Sowada 2000: 1528.

Comment: The palettes were both found in good EB III deposits, in strata considerably later than their date of production. Inadequate publication of excavations from Beth Yerah over the years means that other *aegyptiaca* may yet be identified.⁸¹

4.17.2. Architectural features

The EB III granary at Beth Yerah has been identified as an Egyptian inspiration (Pl. 16a) (Maisler 1952: 227-8, Currid 1986: 23-4). A broadly similar structure is known from Arad (Currid 1986: 20-1, Amiran and Ilan 1996: 146-7). The model granary from 4th Dynasty Elkab, showing a group of circular ‘beehive’ silos, provides a plausible parallel for the use of the Beth Yerah structure (Pl. 16b) (Quibell 1898: pl. 6.2; Esse 1991: 39), as does a steatite model granary from Melos (Marinatos 1946: 342, fig. 4). A scene from the tomb of Ptah-hotep (Junker 1941: 49, fig. 10; Kempinski 1989: 77-8) also depicts similar buildings situated on a platform (Fig. 37).

No major granaries are known elsewhere in EB III Canaan against which to compare the Beth Yerah building. That the building represents a relatively common method of third millennium grain storage, rather than an Egyptian inspiration must remain an open question. However, the known presence of an Egyptian official at the site in the EB II (Greenberg and Eisenberg 2002), and glimpses of contact in the EB III, means that a direct Egyptian inspiration for this structure is possible.

4.18. Conclusion

The Sinai

Inscriptions and archaeological evidence at Wadi Maghara and Wadi Kharig confirm the presence of state-sponsored mining from the beginning of the 3rd Dynasty that continued until the end of the 6th Dynasty.

Inscriptions indicate that the Sinai mining areas were known as both *Sṯt* and *ḥ3st* in the OK. These sites were accessed by sea via the Red Sea route, with the fort of Tell Ras Budran on the el-Markha Plain in the Sinai acting as a coastal anchorage and way-station for hinterland expeditions during the 6th

⁸¹ As per the remarks of Amiran (1974b: 11).

Dynasty; earlier occupations may exist elsewhere on the Sinai coast. A land route along the western coast of the Sinai from Egypt may have been used in addition to sea lanes.

Although the OK settlements noted by Petrie are not sufficiently published, evidence of copper smelting and refining at these sites indicates the treatment of local copper resources by Egyptian mining units, in addition the titles of officials which speak of the management of copper resources. The acquisition of turquoise is also indicated by the name of the region as 'the turquoise terrace'. Indeed, a piece of raw turquoise from an EB IIIA Tel Yarmuth (Ch. 4.8.5), while only a single piece, provides a tantalising hint of a possible raw materials trade between southern Canaan and the Sinai mines, which by this time were being exploited by the Egyptian state.

The discovery of late 5th-6th Dynasty Meydum bowl fragments along the western and central regions of the 'Way of Horus' in north Sinai attests to the use of this route during the latter part of the OK. The title 'Overseer of the Road of Horus' indicates that an administrative apparatus existed to manage the Sinai land bridge at this time. Weni also speaks of landing half his army by road and the other by sea to fight the *ʿ3mw ḥryw-š* (*Urk.* I: 104.14-7 to 105.1); if these campaigns occurred in Canaan or north-eastern Sinai, the army would have passed along the north Sinai road. All this thus suggests that the route continued in use as a land bridge between during the OK, particularly the latter part of this era, despite the importance of the sea-going Byblos run. The apparent absence of evidence for the early OK in northern Sinai, as identified by Oren, is an issue requiring further archaeological excavations to clarify, given the limited nature of the initial surveys.

Table 5: Summary of imported Egyptian material in EB III-IV Canaan

<i>No.</i>	<i>Item</i>	<i>Site</i>	<i>Date of Object</i>	<i>Context Date</i>
[105]	Settlement remains	Wadi Maghara, Tell Ras Budran	Late 6th Dynasty	N/A
[106]	Rock graffito	Wadi Maghara	OK	N/A
[107]	Rock graffito	Wadi Kharig	5th Dynasty	N/A
[108]	Sherds Meydum bowls	North Sinai	Late 5th-early 6th Dynasty	N/A
[109]	Siltstone palette	Numeira	Naqada IIIB-C1	EB III
[110]	Red Sea shell beads	Bab edh-Dhra	Prob. EB II-III	EB II-III
[111]	Siltstone palette	Bab edh-Dhra	Naqada IIIB-C1	EB III-IV
[112]	Siltstone palette	Bab edh-Dhra	Naqada IIIB-C1	EB III-IV
[113]	Siltstone palette	Bab edh-Dhra	Naqada IIIB-C1	EB II-III
[114]	Siltstone palette	Bab edh-Dhra	Naqada IIIB-C1	EB II-III
[115]	Siltstone palette	Bab edh-Dhra	Naqada IIIB-C1	EB II-III
[116]	Siltstone palette	Bab edh-Dhra	Naqada IIIB-C1	EB II-III

[117]	Chlorite cylinder seal	Bab edh-Dhra	Late 1st-3rd Dynasty	EB III
[118]	Ceramic jar	Bab edh-Dhra	End 5th Dynasty	EB III
[119]	Fragt travertine jar	Bab edh-Dhra	End 5th Dynasty	EB III
[120]	Feldspar bead	Tel Halif (Lahav)	OK	EB III
[121]	Siltstone palette	Tel Halif (Lahav)	Naqada IIIB-C1	EB IIIA-B
[122]	Palette fragt	Tel Halif (Lahav)	Naqada IIIB-C1	EB III
[123]	Fragt stone jar	Tel Erani	ED-3rd Dynasty	EB III (?)
[124]	Siltstone palette	Tel Yarmuth	1st Dynasty	EB IIIB
[125]	Fragt siltstone palette	Tel Yarmuth	1st Dynasty	EB III
[126]	Fragt limestone vessel	Tel Yarmuth	OK (?)	EB III
[127]	Frag porphyry vessel	Tel Yarmuth	ED-OK	EB III
[128]	Fragt lapilly tuff bowl	Tel Yarmuth	2nd-3rd Dynasty	EB IIIA
[129]	Fragt lapilly tuff bowl	Tel Yarmuth	2nd-3rd Dynasty	EB IIIA
[130]	Fragt tuff bowl	Tel Yarmuth	1st-3rd Dynasty	EB IIIA
[131]	Fragt gabbro o/table	Tel Yarmuth	3rd-4th Dynasty	EB IIIA
[132]	Fragt travertine bowl	Tel Yarmuth	ED-early OK	EB IIIB
[133]	Fragt basalt vessel	Tel Yarmuth	3rd-4th Dynasty	EB IIIB
[134]	Travertine jar	Ai	1st Dynasty	EB IIIB
[135]	Travertine cylindrical jar	Ai	ED-early OK	EB IIIB
[136]	Fragt travertine vessel	Ai	ED	EB IIIB
[137]	Fragts travertine vessel	Ai	ED	EB IIIB
[138]	Fragmentary limestone bowl	Ai	ED-early OK	EB IIIB
[139]	Fragmentary travertine bowl	Ai	ED	EB IIIA
[140]	Fragmentary travertine bowl	Ai	2nd-3rd Dynasty	EB IIIA
[141]	Fragmentary travertine bowl	Ai	1st-3rd Dynasty	EB IIIB
[142]	Travertine bowl	Ai	1st-3rd Dynasty	EB IIIB
[143]	Limestone bowl	Ai	3rd Dynasty	EB IIIB
[144]	Ivory knife handle	Ai	1st-3rd Dynasty	EB IIIB
[145]	Ivory/bone comb fragts	Ai	1st-5th Dynasty	EB IIIB
[146]	Carved bone cones	Ai	5th Dynasty	EB IIIB
[147]	Fragt diorite (?) jar	Megiddo	OK	EB III
[148]	Siltstone palette	Beth Yerah	Naqada IIIB-C1	EB III
[149]	Fragt siltstone palette	Beth Yerah	Naqada IIIB-C1	EB III

Canaan

Aegyptiaca falls into the category of durable manufactured goods: stone vessels, palettes and small items like seals, beads and amulets. A trade in raw

stones and shells also seems likely; the question of imported faience, however, remains uncertain.

The largest assemblages come from central and southern Canaan: Ai (13 entries), Tel Yarmuth (10 entries) and Bab edh-Dhra/Numeira (11 entries). At Ai, stone vessels were found alongside other Egyptian luxury items like bone cones from a bead dress, a dagger handle and a comb. Most of the objects were found on the floor of the terminal EB IIIB phase of Sanctuary A, and evidently belonged to the temple's cult equipment. Two others were found in the EB IIIA Acropolis area [139-40], thus pointing to the possibility that the other vessels were originally located there. Of a total of nine vessels, six were bowls. The shapes do not seem to extend beyond the 4th Dynasty, although some types have a very wide date range. Identifying precisely when they arrived at Ai is even more difficult, given the heirloom factor of such pieces, even in Egypt. Either way, when assessed on typological grounds, the group can not be necessarily regarded as having been manufactured at the same time as Amiran suggests, which might point to different arrival dates. The overall impression given by the date of the vessels, however, is that they arrived during the ED period either together or incrementally over a long period of time, but probably no later than the end of the 3rd Dynasty. Parallels for the other objects are wanting and so precise dating is difficult; they may have arrived with the stone vessels or at a later time.

Apart from a fragment of a gabbro offering table or platter [131], bowl fragments also dominated the stone vessels from Tel Yarmuth. As bowls and offering tables are not containers for products, they represent prestige items almost certainly sent as royal gifts or trade items in their own right in the EB II or EB IIIA, and retained as precious goods by the recipients. At Bab edh-Dhra, a fragment of a cylindrical jar [119] could be considered a container for an Egyptian commodity. It was not from a context pointing directly to elite gift exchange and hence may have arrived through other means. However, the quantity of other Egyptian items from Bab edh-Dhra indicates that it probably arrived via a direct link with Egypt.

The remaining *aegyptiaca* comprises largely siltstone palettes and small items such as beads, seals and amulets. Palettes were found at Tel Yarmuth [124-5], Tel Halif [121-2], Numeira [109], Bab edh-Dhra [111-6] and Beth Yerah [148-9]. As many as six Egyptian palettes were found in a variety of contexts at Bab edh-Dhra. Four were found in Charnel House EB II-III burials [113-6], in sections of the tomb with predominantly EB III materials. Two others were discovered in the town area. This spread of palettes in tombs suggests an element of retention for elite purposes. However, the palettes are all found in contexts dated long after the *floruit* of the palettes themselves. This raises the question of whether they are heirlooms, or should be regarded as contemporary imports. This issue is canvassed further in Ch. 8.3.3.

The quantity of *aegyptiaca* tapers off in the north. The importance of Beth Yerah as a production and distribution centre for the trade in oils and resins

during the ED-EB II has been demonstrated by Abydos Ware imports in Egypt and the Beth Yerah jar inscribed with Egyptian hieroglyphs (Ch. 2.3.5-7). In particular, the importance of EB III Beth Yerah as a production and distribution centre for olive oil has also been canvassed (Esse 1991: 123-4). Elemental analysis of OK imported ceramics shows that Beth Yerah's position as the gateway to products of northern Canaan continued in the EB III (see Ch. 6.12). Hence, although the Beth Yerah palettes [148-9] were manufactured much earlier than their contexts, the appearance of these objects fits the pattern established by southern sites. They may be luxury items exchanged by Egyptian agents or emissaries; more prosaically, the objects could represent another destination for a local trade in Egyptian *exotica*.

As with the Chalcolithic Period, a low-level trade in Red Sea shells for bead making evidently continued throughout the third millennium. The proximity of these resources to Egypt means that the Egyptians may have had a role in obtaining and distributing this commodity either directly or down-the-line. Alternatively, Red Sea shells may have been exchanged across the Sinai via local tribespeople, travelling up the Wadi Arabah (Schaub and Rast 1989: 311-2). The question of whether hard stone maceheads or raw materials for their manufacture were imported from Egypt must remain an open question pending further research. The ambiguity of maceheads in any discussion of Egyptian interconnections and a possible trade in raw materials for such objects is discussed further in Chs 7 and 8. Likewise, the origin of carnelian for bead-making must remain open for the time being.

Little in the way of fresh chronological synchronisms can be gleaned from the corpus. A 2nd-3rd Dynasty bowl from Ai [140], from an early EB IIIA context, provides a possible link. Likewise, a vessel of probable 3rd Dynasty date [128] was found in EB IIIA Tel Yarmuth. Little is known of 3rd Dynasty activity in Canaan from the Egyptian side but this cannot be ruled out. However, the heirloom factor of most other Ai stone vessels, the Naqada IIIB date of the palettes and the wide OK date for many other objects, means that sound chronological data to more precisely synchronise Egypt with Canaan is still lacking.

Support for the exchange by Egypt of small items occurs in an inscription from the tomb of Sabni, who took a range of goods as diplomatic gifts to Nubia rulers, such as faience, honey and *mhrt*-oil (*Urk.* I: 136.5). Egyptian objects in Canaan echo this description; indeed, the ceramic jar from Bab edh-Dhra [118] may have been a container for such products. It is also possible that a down-the-line trade existed in Egyptian *exotica*, which saw small items exchanged locally without the involvement of Egypt. However, other evidence speaks of this material arriving within the framework of a more formal relationship. The importation of stone vessels begins in the ED in the context of a changing pattern of relations between the two regions (Ch. 2.3.10). Moreover, contact with Egyptian officials evidently resulted in the adoption of some Egyptian ideas and concepts, including the cubit as a unit of

measurement for construction of the EB III palace walls at Tel Yarmuth, and egyptianising pottery at Ai for use as cultic equipment (see Ch. 8). A possible *serekh* incised onto a local EB IIIA bowl at Tel Yarmuth may even point to the presence of Egyptian officials akin to the jar from Beth Yerah. Along with the Egyptian stone vessels, these elements speak of direct contact with the Egyptian state.

5. A CORPUS OF EGYPTIAN IMPORTS IN THE NORTHERN LEVANT AND THE AEGEAN

5.1. Introduction

This section presents Egyptian objects from sites in Lebanon, Syria and beyond. The corpus begins in Byblos before moving north and then west into the Aegean. Only 'in-context' material is included on the grounds that out-of-context material need not have arrived contemporaneously with the date of manufacture. This issue is discussed more fully in Chapter 8.

5.2. Adonis River

An inscribed copper axe-head of possible 4th-5th Dynasty date was found in 1911 near the mouth of the Adonis River between Byblos and Beirut (Pl. 17a) (Mallon 1925; Rowe 1936: pl. 36.1). The inscription probably names a royal lumberjack crew of the 4th Dynasty (Wright 1988: 147; Helck 1994: 106). Although this object is without a viable context, much has been made of its discovery. A number of scholars believe that it belonged to a royal boat or lumberjack crew on a timber-getting expedition (Ward 1963: 25; Wright 1988: 147). Its date of deposition cannot be ascertained.

5.3. Byblos

A significant quantity of OK *aegyptiaca* comes from Byblos. The material consists largely of stone vessels, but cylinder seals (Montet 1928: pl. 39.42; Dunand 1939: 272, pl. 125.3074; Chéhab 1969: 6-7) and other objects including statuary were also found (Dunand 1927: 98; 1939: pl. 112.6066; Bongrani 1963; von Bothmer 1971; Scandone Matthiae 1994: 39). Much of this is well-known and has been repeatedly discussed, particularly from the perspective of the inscriptions (Montet 1928; 1962; Nelson 1934; Ward 1963; 1964; Jidejian 1968; Goedicke 1966; 1978; Chéhab 1969; Helck 1971; 1994; Scandone Matthiae 1994; Espinel 2002; Sparks 2003).

Despite the fact that this material is so familiar, its documentation is patchy, particularly for Montet's excavations (1928; Saghih 1983: 40). He found many Egyptian stone vessels and other objects in the Ba'alat Gebal temple area where he dug a big trench through the structure (Appendix I) (Montet 1928: 68-80; Jidejian 1968: 19). However, the *aegyptiaca* from this area is either poorly stratified or out-of-context, being found with later material in MBA levels (Saghih 1983: x, 40).⁸² Saghih plausibly suggested

⁸² A number of stone vessels were examined by the writer in the Museum of the American University in Beirut in 1996. Although they were purchased, there seems little doubt that

that the burnt surfaces of many pieces indicated that they were originally engulfed in the earlier Phase KIV temple destruction, and are thus probably heirlooms (1983: 45). Nevertheless, there are pieces in this group which may be later than the OK, such as fragments of narrow double handles (App. I.74), the lid of a jar (App. I.43) and a flat-based ovoid jar (App. I.45).⁸³ Shapes represented included plates or disks, baggy jars, and zoomorphic vessels in the shape of a monkey clutching its young.

Likewise, Dunand's work has many problems (1939; 1958), with the site recorded in a highly inconsistent fashion (Saghieh 1983: x-xi). Saghieh's synthesis of prior archaeological activity has helped develop a more coherent stratigraphic framework for both Montet's and Dunand's work at Byblos. As a result, it is evident that many OK finds are out-of-context, found in deposits much later than their date of production (Saghieh 1983: 37). This is particularly true of the many Egyptian stone vessels from the Ba'alat Gebal temple complex (Saghieh 1983: 41-2), with fragments bearing the name of Pepy I or II found in almost all levels from the surface to Level XXXIII (Saghieh 1983: 99; Scandone Matthiae 1994: 40; Sparks 2003: 53-5).⁸⁴

This fact affects the viability of the stone vessels as evidence for OK foreign relations with Byblos, and for the strength and nature of a direct relationship between Egypt and the Ba'alat Gebal temple cult (for an alternative view, see Espinel 2002). This issue will be further discussed in Chapter 8.

Moreover, for both Montet's and Dunand's work, most of the objects were published in a very cursory fashion. Particularly in Montet's publication, the precise nature of some pieces cannot be identified (e.g. Montet 1928: pl. 45.51), while others are not labelled in the plates.⁸⁵ In both cases, less emphasis was given to uninscribed objects, which is unfortunate, as these can add to the broader picture of Egypt's relationship with the city. Other stone vessels or fragments were described in the text, but there were no illustrations,

their provenance was Byblos (Nelson 1934: 19; Jidegian 1968: 20; Scandone Matthiae 1994: 40 n. 19). Indeed, the writer identified several of these vessels in Montet's excavation reports. A small number of other finds, from as early as the 2nd Dynasty (e.g. Rowe 1936: d), are attested in the literature but were impossible to verify.

⁸³ Lids are more commonly seen on vessels from the MK, although they are known sporadically on tapering cylindrical jars from the early OK (see Reisner 1931a: 175, fig. 43.2). To judge from Montet 1928: 45.87, the scale of the lid relative to the other objects indicates that it belongs to a small MK lidded concave-sided beaker (for examples, see Manniche 1999: 109).

⁸⁴ The total number of inscribed OK stone vessels found in later contexts is great, but see for example all those published by Montet, along with Dunand 1939: 117, no. 1939, 120, no. 1794, 93, no. 1359, 132, nos 1927-8 and 1940, 136, no. 1981; Dunand 1958: 534, fig. 611.13491.

⁸⁵ Unfortunately it was not possible to re-examine most of these objects as the National Museum in Beirut was not fully functional at the time this research was conducted. Indeed, many of these objects are probably lost to scholarship.

too little of the inscription remained, the stratigraphic context was too uncertain, or nothing was known of the measurements or shape to even date the vessel typologically.

No out-of-context *aegyptiaca* is included in the following corpus on the grounds that the precise time of arrival at the site cannot be established with certainty. The list was established after examination of Saghie's re-examination of the Byblos stratigraphy (1983), and a comparison with the work of Montet and Dunand. However, it should be borne in mind that given the highly problematic nature of the Byblos stratigraphy, this list must be regarded as tentative. Some objects which may be Egyptian have not been included in the corpus where the published data was insufficient to positively identify it as a piece of third millennium *aegyptiaca*. Egyptian material from Montet's 'dépôts de foundation' is summarised in Appendix I.

5.3.1. Stone vessels

[150] *Dunand 4028* (not illustrated) Fragment of a travertine lid, bearing the edge of an incised cartouche and *..dt* 'for eternity' reading from right to left incised within. 0.48 x 0.2cm.

Prov.: Ba'alat Gebal temple, demolition of walls from Dunand's Court 1 of *bâtiment XVIII*, south-west corner, in Saghie's *bâtiment XL*, under wall xx, Phase 5.

Date of deposit: Byblos Phase KIV.

Date of object: OK.

Parallels: See **[186]**; Firth and Gunn 1926: pl. 12; Jéquier 1933: 30, fig. 12.

Published in: Dunand 1939: 280, no. 4028.

[151] *Dunand 4029* (Fig. 25) Two joining travertine body sherds of a probable shouldered jar, featuring the outstretched wing of a deity with feathers carefully incised, surmounting a horizontal row of incised hieroglyphs reading from left to right [*nsw*]-*bity s3 R^c Wn[is* 'King of Upper and Lower Egypt, Son of Re, Unas'. Dimensions unknown.

Prov. and Date of deposit: as for **[150]**.

Date of object: 5th Dynasty, reign of Unas.

Parallels: See **[171]**.

Published in: Dunand 1939: 280, pl. 36.4029; Chéhab 1969: 8-9.

Comment: Incised decorative elements on the surface of OK stone vessels are not common, but are known. A fragment of a shouldered jar from the AUB collection (AUB 5029) with the name of Pepy I or II, featured a beautifully carved lotus flower on the surface below the inscription.⁸⁶ The incised winged

⁸⁶ This vessel almost certainly came from Montet's excavations. The writer examined it in Beirut in 1996.

deity in this instance almost certainly indicates an association with a royal name, as is the case with [160].

[152] *Dunand 4030* (Fig. 25) Fragment of a travertine cylindrical jar, with a horizontal ridge (?) below the rim, bearing an incised panel with three vertical columns of hieroglyphs. Insufficient of the right hand column is preserved; the middle column reads *dd mdw in...* 'Recitation: [I?] brought...'; the third column has a cartouche reading *R^c-n-wsr...* 'Niuserre' surmounted by the outstretched wing of a deity. Dimensions unknown.

Prov. and Date of deposit: As for [150].

Date of object: 5th Dynasty, reign of Niuserre.

Parallels: See [159-60, 162]; panel inscription, see Jéquier 1936: fig. 6 lower left; Wright 1988: 149.

Published in: Dunand 1939: 280, pl. 37.4030; Chéhab 1969: 7.

[153] *Dunand 4031* (Fig. 25) Body of a small travertine jar with a pointed base, possibly belonging to an egg-shaped jar. Ht 2.9cm D. 2.1cm.

Prov. and Date of deposit: As for [150].

Date of object: Late OK, late 5th- 6th Dynasty (?).

Parallels: Jéquier 1929: fig. 95, bottom row, second from left; Brunton 1948: pl. 34.9.

Published in: Dunand 1939: 280, pl. 151.4031.

[154] *Dunand 4032* (not illustrated) Various fragments of travertine, diorite and breccia vessels, not possible to reconstruct.

Prov. and Date of deposit: As for [150].

Date of object: OK.

Published in: Dunand 1939: 281.

[155] *Dunand 15866* (Fig. 25) Uninscribed carved travertine model shouldered jar with a flat base and wide roll rim. Ht 8.7cm D. max. 3.4cm.

Prov.: Dunand's Levée XIX, Square 12/14, Saghieh's Area III, Unit B, Buildings XXII-XXIII, Phases 3 and 3a.

Date of deposit: Phase KIV.

Date of object: 4th-5th Dynasty (?).

Parallels: This type of vessel is very similar to ceramic model *hes*-jars of the early third millennium noted in Sowada 1999: 94, pl. 16.2. See also Reisner and Smith 1955: 95, fig. 140, Reg. 30-1-43; fig. 143, Reg. 29-10-9 (4th Dynasty); Warren 1969: pl. 28, P355 (5th Dynasty).

Published in: Dunand 1958: 806, fig. 917; Saghieh 1983: 33, fig. 10.

[156] *Dunand 17536* (Fig. 25) Upper body of a travertine cylindrical jar, sides narrowing towards the base. Rim shape a rounded obtuse angle. Ht 8.4cm.

Prov.: 'Palace' or residence in the region of Dunand's *Enciente Sacrée*, Levée XXII, Square 3/7; Saghie's Area III, Unit D, Building XXV. Found on the floor, charred and covered with a layer of ash (Dunand 1958: 936; Saghie 1983: 36).

Date of deposit: Phase KIV.

Date of object: ED to 5th Dynasty (?).

Parallels: Aston 1994: 99-100, 102-3, 104.

Published in: Dunand 1958: 929, fig. 1047; Saghie 1983: 36-7, fig. 12.

Comment: The fragment belongs to a jar with straight sides that taper towards the base known from the 1st-6th Dynasty (Aston 1994: 99). However, the rim would suggest an earlier rather than later jar according to Aston's typology, perhaps belonging to the ED era or 3rd-5th Dynasty (Aston 1994: 100, 104).

[157] *Dunand 17538* (Fig. 25) Fragment of a diorite vessel, shape uncertain, possibly a bowl (?). On one side is a fragmentary inscription in hieroglyphs reading from right to left ...*Mwt-ḥtp-ḥr*... 'Hetepheres'. Ht 9.2cm W. 8.7cm Th. max. 1.3cm.

Prov. and date of deposit: As for [156].

Date of object: Early 4th Dynasty, reign of Sneferu or Khufu.

Published in: Dunand 1958: 929, fig. 1045; Montet 1962: 87-8; Saghie 1983: 36-7, fig. 12.

[158] *Dunand* (a) 17539, (b) 17540 and (c) 17542 (Fig. 26) Three fragments of a travertine platter or offering table, with incised hieroglyphs parallel to the edge. Fragment (a) bears the sign *Hr nbw* 'Golden Horuses'; another (b) features the cartouche of Pepy I or II, with traces of a *bity* sign on one side and *Hr Nb* on the, and the third (c) bears the phrase ... *m mnw.f n* ... '...a dedication for [his father]...' (a) L. 0.92cm (b) L. 11.4cm (c) L. 13.3cm.

Prov. and Date of deposit: As for [156].

Date of object: 6th Dynasty, reign of Pepy I or Pepy II.

Parallels: Dunand 1939: pl. 36.4129, pl. 38.6496.

Published in: Dunand 1958: 929, fig. 1044; Chéhab 1969: 13; Saghie 1983: 36-7, fig. 12.

Comment: Dunand believed that these pieces belonged to the same vessel, owing to the placement of the inscription, similarity of the stone and thickness of the pieces (1958: 929).

The corpus published by Nelson (1934) included a considerable number of inscribed platters or tables with inscriptions parallel to the edge similar to this. Only the inscriptions were published, but the kings represented by these objects were Teti, Pepy I and Pepy II. Most were made of travertine. Although this material is fragmentary, *Hr nbw* comes from the titulary of both Pepy I and II (Nelson 1934: 20, AUB 5019 and 5023, pl. 3; 21, AUB 4041-2, pl. 4). The fragments belong to one of those kings.

[159] *Dunand 17541* (Fig. 26) Fragments of a travertine cylindrical jar, with an incised hieroglyphic inscription featuring a panel with *w3s*-scepters on either side surmounted by a *pt*-sign. Traces of signs inside this panel, including a *nsw*-sign and possibly the edge of a bird with outstretching wings. Dimensions unknown.

Prov. and Date of deposit: As for **[156]**.

Date of object: OK, probably 5th or 6th Dynasty.

Parallels: **[152]**; for panel inscription see Jéquier 1936: fig. 6; for a vessel from Byblos with similar incised panel inscription, see Nelson 1934: 21, pl. 4 and 6 dating to the reign of Pepy I; for a similar incised border on a stone vessel, see Dunand 1939: pl. 36.4029 (Unas).

Published in: Dunand 1958: 929, fig. 1044; Saghie 1983: 36-7, fig. 12.

Comment: As similar designs commonly frame the name and titles of kings, it seems likely that this vessel was once also inscribed with a royal name.

[160] *Dunand 17543* (Fig. 26) Fifteen fragments of a travertine cylindrical jar, all probably from the same vessel. Surface inscribed with fragmentary signs, but insufficient of vessel preserved to read a coherent inscription. Incised falcon (?) with outstretched wings visible on exterior. Largest fragment 11.0cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: OK, probably 5th or 6th Dynasty.

Parallels: **[151]** (decoration).

Published in: Dunand 1958: 929, figs 1044-5; Saghie 1983: 36-7, fig. 12.

[161] *Dunand 17548a and 17548b* (Fig. 27) Two large uninscribed fragments of travertine shouldered jars tapering toward the flat base (a) with a flattened square rim and (b) with a flattened bevelled edge rim. (a) Ht 28.0cm (b) Ht 15.6cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: OK, 5th or 6th Dynasty.

Parallels: Jéquier 1936: fig. 6, top row, centre.

Published in: Dunand 1958: 934, fig. 1047; Saghie 1983: 36-7, fig. 12.

[162] *Dunand 17549* (Fig. 27) Fragment of a travertine cylindrical jar (?) with an incised falcon (?) on the surface. Ht 8.0cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: OK, 5th or 6th Dynasty.

Parallels: as for **[151, 159-60]**.

Published in: Dunand 1958: 934, fig. 1047; Saghie 1983: 36-7, fig. 12.

Comment: The incised falcon in this instance almost certainly indicates an association with a royal name, as is the case with **[151]**.

[163] *Dunand 17550a-f* (Fig. 28) Fragments of at least six uninscribed travertine bowls of varying heights with recurved rims. All the bowls have plain interiors, except (c), which has an incised circle or a countersunk base. Hts 6.6-3.4cm D. rims 12.7-10.8cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: (a)-(b) and (d)-(e) 3th—4th Dynasty; (c) probably ED to 3rd Dynasty.

Parallels: Aston 1994: 122-3; Berman 1999: 86-91. Spencer notes that the plain base is usually later than those with incised circles. He also noted that plain rims become more common than sloping re-curved rims during the OK, with the latter more common in diorite (1980: 18-9). This may suggest an earlier date for the whole group.

Published in: Dunand 1958: 934, fig. 1046; Saghie 1983: 36-7, fig. 12.

[164] *Dunand 17551a and b* (Fig. 27) Rim fragments of two uninscribed diorite bowls (a) with a direct rim and (b) with a recurved rim with sloping edge. D. rim approx. 17.0cm (b) D. rim approx 30.0cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: (a) 4th-6th Dynasty (b) probably ED.

Parallels: Reisner 1931a: fig. 43.6, 8, fig. 57; Aston 1994: 110; for (b) see **[141-2]** (Ai).

Published in: Dunand 1958: 934, fig. 1047; Saghie 1983: 36-7, fig. 12.

[165] *Dunand 17552* (Fig. 27) Fragment of a carinated travertine bowl with an everted rim. Ht 5.6cm D. rim 21.0cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: 4th-6th Dynasty.

Parallels: similar bowls from Ebla **[178]** and parallels.

Published in: Dunand 1958: 934, fig. 1047; Saghie 1983: 36-7, fig. 12.

[166] *Dunand 17553* (Fig. 27) Flaring flat base of a travertine jar, possibly from a cylindrical jar or a *hes*-jar. D. 9.1cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: OK.

Parallels: **[147]** from Megiddo; Montet 1928: 42.76 (*hes*-jar).

Published in: Dunand 1958: 934, fig. 1046; Saghie 1983: 36-7, fig. 12.

Comment: This piece may belong to a footed *hes*-jar, known in both ceramic, stone and metal from the ED and OK (Aston 1994: 119; see Sowada 1999: pl. 15.3). In the OK, the base adopts a very flaring profile (Brunton 1927: pl. 42, lower right; Reisner 1931a: pl. 65d).

[167] *Dunand 17554* (Fig. 28) Lower body and base fragment of an ovoid jar, material described by Dunand as ‘une magnifique diorite veinée des lignes

concentriques noires d'un fort bel effet' (1958: 934), probably anorthosite gneiss. Ht 10.0cm.

Prov. and Date of deposit: As for [156].

Date of object: OK.

Parallels: [183], Jéquier 1929: fig. 95; Jéquier 1936: fig. 6; Aston 1994: 138-9.

Published in: Dunand 1958: 934, fig. 1046; Saghie 1983: 36-7, fig. 12.

Comment: This is a very generic shape with a wide date range.

[168] *Dunand 17555* (Fig. 28) Elliptical base of a travertine jar of uncertain shape. L. 13.0cm W. 6.8cm.

Prov. and Date of deposit: As for [156].

Date of object: ED or OK.

Published in: Dunand 1958: 935, fig. 1045; Saghie 1983: 36-7, fig. 12.

[169] *Dunand 17557* (Fig. 28) Rim of a narrow necked travertine jar, with a sharp triangular edge, possibly from a *hes*-jar. Ht 5.0cm.

Prov. and Date of deposit: As for [156].

Date of object: OK.

Parallels: Jéquier 1929: fig. 78; Jéquier 1936: fig. 6, centre.

Published in: Dunand 1958: 935, fig. 1047; Saghie 1983: 36-7, fig. 12.

[170] *Dunand 17558* (Fig. 28) Body of a model travertine ovoid jar. Ht 2.7cm D. 2.8cm.

Prov. and Date of deposit: As for [156].

Date of object: OK.

Parallels: Jéquier 1929: fig. 94, bottom row, centre.

Published in: Dunand 1958: 935, fig. 1047; Saghie 1983: 36-7, fig. 12.

[171] *Dunand 17560* (not illustrated) Body sherd from the shoulder of a travertine jar, with an incised lotus on the exterior. L. 11.0cm Th. 1.0cm.

Prov. and Date of deposit: As for [156].

Date of object: OK, 5th-6th Dynasty (?)

Parallels: The writer observed an incised lotus on a shouldered jar with the name and titles of Pepy I or II (AUB 5029). The inscription is published in Nelson 1934: pl. 5.

Published in: Dunand 1958: 935, fig. 1046; Saghie 1983: 36-7, fig. 12.

[172] *Dunand 17561a and 17561b* (Fig. 28) Two bases from footed travertine pedestalled jars or chalices, with a raised horizontal ridge between stem and body. The underside of (a) is concave. (a) Ht 4.8cm (b) Ht 5.8cm.

Prov. and Date of deposit: As for [156].

Date of object: 4th-6th Dynasty but ED date also possible.

Parallels: Emery 1949: 68, 137, fig. 74.14; Emery 1958: pl. 103a; Aston 1994: 118. See also App. I.65 (Fig. 35).

Published in: Dunand 1958: 935, fig. 1047; Saghie 1983: 36-7, fig. 12.

Comment: These pieces also could be from a rare type of stemmed beaker with a tube spout, known from the 6th Dynasty (Aston 1994: 135).

[173] *Dunand 17562* (Fig. 29) Fragment of a thick-walled squat spheroidal jar with wide shoulders, wide, flat rim and round base. Ht (restored) 12.0cm D. max. 23.0cm Th. max. 6.0cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: 3rd-4th Dynasty.

Published in: Dunand 1958: 936, fig. 1049; Saghie 1983: 36-7, fig. 12.

[174] *Dunand 17563* (Fig. 29) Two fragments of a travertine plate with a concavo-convex surface and raised edge. Surface inscribed with an elaborate decoration consisting of four opening lotus flowers each separated by a group of reeds. D. 17.7cm Th. max. 1.5cm.

Prov. and Date of deposit: As for **[156]**.

Date of object: 5th-6th Dynasty (?).

Parallels: For a similar rosette pattern, see parallels cited in Smith 1965b dated to the 5th Dynasty, although a 6th Dynasty date is quoted by Saghie 1983: 36, citing the same reference.

Published in: Dunand 1958: 936, fig. 1049; Smith 1965b: fig. 21; Saghie 1983: 36-7, fig. 12.

5.3.2. Stone vessels of uncertain Egyptian origin

Dunand notes a feeding bottle (?) ('biberon') of marble from Levée XXII, (1958: 935), but the vessel is not illustrated. A fragment of a carinated travertine bowl from Levée XXIV (Dunand 1958: 1027, no. 18740-1, fig. 11320) at first glance seems to be Egyptian but has no known parallel; this may come from Mesopotamia.

Of interest were a number of 'alabaster' bowls and jar fragments featuring incised diagonal lines and chevrons around the rim, found in Phase KIV (Dunand 1958: 929-34, nos 17544-7), along with Egyptian stone vessels **[156-74]**. The group consisted of two hole-mouth jars with the design around the lip (nos 17545-6); a bowl and lid (or more likely a bowl) (nos 17564 and 17544), and a straight-sided cylindrical jar (no. 17547). Although they are often assumed to be Egyptian (see Saghie 1983: 33), this may not be the case. Raised bands and cords below the rim and over the body are known from the 1st-5th Dynasty (Aston 1994: 99), but similar incised designs appear at Ebla on a group of cups and bowls from Palace G (Pinnock 1981). Possibly they are Egyptian copies of foreign shapes (on this, see Ch. 8.2.2); indeed, a version of the stone hole-mouth jar existed in Egypt (Reisner 1931a: fig. 50.6-

9). Visual examination of the pieces themselves would be required to confirm this. However, from the published information it seems possible that these pieces may be Eblaite, or from elsewhere in Syria or Mesopotamia.

A body of a small Egyptian 'alabaster' (travertine) slender footed jar was found in the *Chapelle Orientale* in Saghie's Phase 4/5, dating to Phase JI-II (Saghieh 1983: 73, no. 7567, fig. 21). The shape is well-known from the Late OK, the FIP and later (Aston 1994: 104, no. 34). It may be an OK heirloom in slightly later levels or an import from the FIP.

5.3.3. Seals

The well-known 'Egyptian' Byblos cylinder seal (Fig. 30a, Pl. 17b) has been much published and debated (Montet 1928: 62-81; Goedicke 1963c; 1966; 1978). It bears hieroglyphs carved onto the surface, but mentions a local ruler and deity. Goedicke's view, that this object is a locally manufactured product but with strong egyptianising tendencies to enhance the prestige of the Byblite ruler, seems well-founded (1963c: 5-6; 1966; Scandone Matthiae 1994: 41). It may have been carved in Byblos by an Egyptian visiting the city, or produced in Egypt as a gift with its foreign recipient in mind (Goedicke 1963c: 7). Conversely, local scribes who had some familiarity with Egyptian may have manufactured it in Byblos.

The date of the seal is a source of considerable debate, owing to its uncertain stratigraphic position. Goedicke assigns it to the 5th Dynasty (1963c; 1966; Scandone Matthiae 1994: 42), whereas Helck preferred a later date (1971: 22-3). The nature of the findspot means that the seal is of dubious value as evidence of OK influence at Byblos (Wright 1988: 151-2).

A cylinder seal bearing the name of Khafre was not found in Phase KIII-IV, contemporary with the OK (Dunand 1939: 200, no. 3074), although some regard it as evidence of OK contact (Scandone Matthiae 1994: 39; Espinel 2002: 118).

5.3.4. Other objects

Many other objects of OK date have been found at Byblos but these are mostly out-of-context and their value in any debate on Egyptian relations is negligible. These include the so-called 'Renan relief', dated to the OK by Montet (1928: 38-9, pl. 28) but for which there is no consensus on the date (for a summary, see Espinel 2002: 106 n. 19); a relief sculpture, possibly a lintel, known as the 'relief de la maisonette' thought to be OK by Montet (1928: 35-8, no. 11, fig. 6, pl. 28.11) for which there is likewise no dating agreement (Espinel 2002: 106-8), and a stone inscription (Dunand 1958: 650; Montet 1964: 65-6, fig. 3). Rowe also reported an inscription of Teti, which 'seems to identify [him] with the local fir – or cedar-god ('Khay-taw') (1936: d). He also reported a stela of Pepy II from Byblos. Both finds were

unverifiable. A statue attributed to Niuserre was also discovered in a doubtful context (von Bothmer 1971) and thus cannot be used as evidence of a royal gift, however tantalising this may seem (Espinell 2002: 113; *contra* Scandone Matthiae 1994: 39).

Of interest is a fragment of a limestone tablet bearing an incised goblet on one side and an inscription in quasi-hieroglyphs on the other (Fig. 30b) (Dunand 1958: 901, no. 17145). This was found in Phase KIV, ‘under the foundations of blg [sic] XXXIX and probably below the floor level of blg XXXVIII [Phase 3]’ (Saghieh 1983: 63, 67, fig. 18). Saghieh identifies the script as a Byblite version of Egyptian hieroglyphs. A further fragment of a limestone stela(?) bearing a uraeus was found in the wall demolition levels dating to Phase KIV (Dunand 1939: 281, no. 4035, pl. 30); this may be Egyptian or inspired by Egyptian iconography.

There are many other objects published by Dunand and Montet that may be Egyptian, but would require personal inspection or scientific analysis for verification. These include a wooden (ebony?) furniture fitting from Levée XXIII (Dunand 1939: 325, no. 4548, fig. 260; cf. Petrie 1901: pl. 40, no. 93) and a fragment of a wooden box said to be made of ebony (Dunand 1939: 337, no. 5026, fig. 271). Likewise, an ivory gaming board or box fitting in the shape of a bovine leg (Dunand 1939: 356, no. 5269, fig. 280, pl. 146) (Fig. 30c) strongly recalls similar types from ED Egypt (Emery 1938: 40, pl. 19E, left), as does a rectangular faience (‘pâte blanche’) relief plaque of a falcon (Fig. 30d) (Dunand 1939: 372, no. 5445, pl. 147). A series of flint knives also has close Egyptian parallels (Dunand 1939: 355, 358, fig. 281, no. 5266; pl. 101, nos 3905 and 3597; pl. 112; see also Appendix I.79 in the present work, Fig. 35j).

[175] *Dunand 17556* (Fig. 29) Fluted stem of a concave-sided travertine headrest, damaged at both ends. Ht 13.0cm.

Prov. and date of deposit: As for **[156]**.

Date of object: 4th-6th Dynasty.

Parallels: Firth and Gunn 1926: pl. 14, nos 1, 3-4; Hassan 1953: pls 1, 45 (4th Dynasty); D’Auria et al. 1988: 78, no. 8; Bermann 1999: 145-6.

Published in: Dunand 1958: 935, fig. 1047; Saghieh 1983: 36-7, fig. 12.

5.3.5. Architectural elements

The re-building of the Ba’alat Gebal complex in Phase KIII included a hypostyle temple constructed of ‘stone laying of the walls imitate[ing] brick bonding, a technique which is not used either in earlier or later buildings at Byblos’ (Saghieh 1983: 42). Saghieh is rightly cautious in ascribing an Egyptian origin to this technique, rather describing it as ‘foreign’ (Saghieh

1983: 55-7, 106, 121). A related building technique is also known from the Ai temple, thus an Egyptian origin is not immediately apparent (Wimmer 1990).

The re-building of the Ba'alat Gebal complex (Building XL) in Phase KIV with two façades is also likened to Egyptian temples, notably the Sahure Valley temple at Abusir (Saghieh 1983: 121, pl. 13-15). The association of this feature, and thus the Byblos temple, with Egyptian temples of the period is weak. In Egyptian mortuary and valley temples of the 5th Dynasty and other periods, the thick solid masonry construction, the use of internal columns, the adherence to a geometric layout of rooms and spaces, columned porticos and a *temenos* wall enclosing a rigorously geometric planned space, is at odds with the more organic development and irregular spatial planning of the Phase KIV Ba'alat Gebal complex. Two entrances are visible on Sahure's Valley Temple at Abusir (Borchardt 1910: plan) but the parallel is otherwise remote. Saghieh (1983: 121) also points to the layout of priest's houses near the pyramid of Khentkawes I at Giza as a parallel for priest's rooms behind the Byblos temple but likewise this comparison is not valid (also noted by Espinel 2002: 106).⁸⁷ Rather, parallels for this temple should be sought elsewhere in the Near East, such as the Sin Temple at Khafaje from the Early Dynastic II Period (Lloyd 1984: 93, fig. 50; see also Wimmer 1990).

A more convincing piece of evidence is found in fragments of a cornice bearing *uraei*, found near the temple in Phase KIV (Fig. 30e) (Dunand 1939: pl. 52.7626; Saghieh 1983: 57, 121). Such friezes are known in Egypt with perhaps the most well-preserved from the OK coming from the Djoser Pyramid complex (Pl. 17d). At Byblos, Saghieh reconstructs the frieze as coming from the Ba'alat Gebal temple and this is certainly plausible on available evidence.

5.3.6. Discussion

Contrary to impressions given in much of the literature (e.g. Ward 1963; 1964; Chéheb 1969: 14; Wright 1988; Redford 1992; Helck 1994; Scandone Matthiae 1994; Sparks 2003), few OK objects can be identified as having been actually found in-context at Byblos. Much more may have been found in Saghieh's Phases KI-IV, equivalent with the third millennium, but this cannot be determined from the reports.

As many as thirteen vessels could be described as containers. These are either cylindrical jars, or shouldered jars; a further two are model jars [155, 170] and hence any practical use is out of the question. Three others were lids, platters or plates [150, 158, 174]; the ten bowls [157, 163-5] also served no practical purpose as commodity containers.

⁸⁷ For the layout of the Giza structures, see Hassan 1943: 35, fig 1.

Table 6: Summary of in-context aegyptiaca at Byblos

Context and description	Corpus
From Phase KIV of the Ba'alat Gebal temple (Building XL):	
• fragt of an inscribed lid with no name remaining	[150]
• jar frags with the name of Unas, late 5th Dynasty	[151]
• jar fragt with the name of Niuserre, early 5th Dynasty	[152]
• the body of small ovoid jar, 5th or 6th Dynasty	[153]
• fragments of stone vessels, shape not known (1+n)	[154]
From Level XIX, Phase KIV	
• model shouldered jar or miniature <i>hes</i> -jar	[155]
From the 'Palace' or residence in the region of Dunand's <i>Enciente Sacrée</i> (Building XXV), at least twenty-eight objects, mostly stone vessels:	
• frags of seven jars (three inscribed/decorated, but no name), ED-6th Dynasty	[156, 159-62, 166]
• bowl (?) fragt, name of Hetepheres, 4th Dynasty	[157]
• frags of an inscribed offering platter/table, probably belonging to Pepy I or II	[158]
• frags of nine uninscribed bowls, ED to 6th Dynasty	[163-5]
• fragt of a flat-based ovoid jar, OK	[167]
• base of a jar of uncertain shape, ED or OK	[168]
• rim of a <i>hes</i> -jar, OK	[169]
• body of a model jar, OK	[170]
• fragt of a shouldered jar, with incised decoration, 5th-6th Dynasty (?)	[171]
• bases of two chalices or stemmed jars, 4th-6th Dynasty	[172]
• fragt of a spheroidal jar, 3rd-4th Dynasty	[173]
• frags of a plate, decorated, 5th-6th Dynasty (?)	[174]
• stem of a travertine headrest, 4th-6th Dynasty	[175]
Total in-context objects: 34 (minimum)	

As the list indicates, only two vessels [151-2] inscribed with royal names were found in EBA levels of the Ba'alat Gebal complex, among a total of three inscribed vessel fragments. These belonged to 5th Dynasty kings; the inscription on another fragment [150] belonged to the standard form of royal epithet. They came from the terminal Phase KIV of the temple. The addition of charred vessels from Montet's excavations, if Saghieh is correct in ascribing them to Phase K of the Ba'alat Gebal complex, widens the range of vessels inscribed with royal names to include Menkaure and Pepy II (Appendix I).

Most of the other Egyptian stone vessels were found in a building described as 'a big rectangular hall...built adjacent to a vast residence' (Saghieh 1983: 36). Saghieh noted the absence of intrusive material, regarding the context as secure because the building was also relatively isolated from later disturbances affecting other parts of the site (1983: 37). The group was

described as a 'collection made over the ages by a family of Byblite merchant princes or by a line of successive Egyptian officials residing at Byblos' (Saghieh 1983: 37). Interestingly, the stone vessel cache included several vessels that were certainly of Eblaite or Mesopotamian origin.

As the parallels cited for the objects show, the group appears to be a homogenous collection of third millennium Egyptian stone vessels, with no later intrusive material (Dunand 1958: 900; Saghieh 1983: 37). However, the vessels have a wide date range, with ED pieces **[163c]** mixed with one definitely from the 4th Dynasty **[157]**, another from the 6th Dynasty **[158]**, and everything in between. Four **[159-60, 162, 171]** were evidently inscribed, but the names are now lost; what does remain are traces of finely incised borders or the outstretched wings of deities, elsewhere associated with royal names of the 5th or 6th Dynasty (compare **[151]**). It also seems difficult to associate the beautifully decorated plate **[174]** with anything other than a royal source. Likewise, fragments of at least one, possibly two *hes*-jars **[166, 169]**, ritual vessels which are found in OK temple or funerary contexts (Sowada 1999), probably have an official origin. One object **[175]** was the stem of a travertine headrest, usually associated with elite burial goods of the OK. This object, found with stone vessels from Mesopotamia, points to elite gifts or trade/exchange in foreign *exotica* rather than Egyptian cult offerings to the local temple.

5.4. Ugarit (Ras Shamra)

Excavations at ancient coastal city of Ugarit (Ras Shamra) have yielded a small number of stone vessel fragments dating to the ED and OK (Caubet 1991: 207-8). Hard stones such as diorite and porphyry dominate these finds, with the most typical shape being a globular jar with or without horizontal handles, typical in the 1st-3rd Dynasties. A rim fragment belonging to a tapering cylindrical jar of Chephren diorite also dates to the OK, but the context is uncertain (Caubet 1991: 240, pl. 13b).

As the fragments were found in the Late Bronze Age city, the question of whether or not they arrived in the third millennium must remain open. Caubet suggests that they are 'antiques' or rubbish from an earlier age (Caubet 1991: 208), but as has been demonstrated elsewhere, third millennium stone vessels (or fragments) often appear in second millennium contexts, probably the result of later tomb robbing (Brandl 1984: 62, Lacovara 1991: 118).

5.5. Ebla (Tell Mardikh)

Since the 1970s, Ebla in northern Syria has been the subject of excavations under the leadership of Professor P. Matthiae. *Aegyptiaca* from Ebla consists only of OK stone vessels from terminal contexts of the Palace G complex (Syrian EB IVA, Tell Mardikh IIB1, c. 2400-2250 BC), principally Locii

2913 and 2875. Over 200 fragments were found. The material was published by Scandone Matthiae (1979; 1981), so the *minutae* of that work will not be repeated.

[176] *Reg. TM.79.G.276* (Fig. 31) Fragments of one, possibly two Chephren diorite shallow round-based bowls.

Date of object: A long date range is possible for this type, stretching from the 3rd to 6th Dynasty (Scandone Matthiae 1981: 123).

Published in: Scandone Matthiae 1981: 106-7, fig. D.Ac.18.

[177] *Regs TM.80.G.280, TM.76.G.334 and other numbers* (Fig. 31) Fragments of at least thirteen shallow carinated Chephren diorite bowls, with a sharp carination and everted rims.

Date of objects: Similar vessels in Egypt date from the early 4th-6th Dynasties (Scandone Matthiae 1981: 122).

Published in: Scandone Matthiae 1981: 100-4, fig. C.Aa.1-10; fig. 21-4.

[178] *Various numbers* (Fig. 31) Fragments of at least sixteen travertine carinated bowls, with different rim shapes, more rounded than the type above.

Date of objects: Ranging from 4th-6th Dynasty (Scandone Matthiae 1981: 123).

Comment: For a similar type from Byblos, see **[165]**.

Published in: Scandone Matthiae 1981: 107-110, fig. E-F.Ba.1-16, fig. 25-7.

[179] *Reg. TM.77.G.940, 948, 961 and 939* (Fig. 31) Fragments of four shallow bowls or platters with convex or straight sides.

Date of objects: Ranging from 4th-6th Dynasty (Scandone Matthiae 1981: 123).

Published in: Scandone Matthiae 1981: 112-3, fig. F.Bb.17-20.

[180] *Regs TM.77.G.943a, 975a-c, 976, 946 and other numbers* (Fig. 32) Fragments belonging to three Chephren diorite quatrefoil bowls or lamps, including one inscribed with *Hr nbw Shm-nbw H^c-f-R^c* 'Golden Horus, Powerful in His Position of Golden Horus: Khafre'. Incised onto another lip is *Nbty Wsr m Nbty H^c-f-R^c* 'The Two Ladies: Strong in His Position of the Two Ladies; Khafre'. W. 2.1cm L. 11.5cm Th. 0.5cm.

Date of object: 4th Dynasty, reign of Khafre.

Published in: Scandone Matthiae 1979: 34-5, figs 11-12; 1981: 104-6, fig. D.Ab.14-6; Scandone Matthiae 1997: 415-6.

Comment: Stone bowls or lamps with folded rims forming a series of spouts have their roots in the ED (Klasens 1958: fig. 13.X1 (ceramic); Emery 1961: pl. 35; Scandone Matthiae 1979: 35 n. 4). They are rarer in the OK, with most known examples coming from Giza. Reisner described the Giza examples as

‘lipped bowls’, although a better description may be ‘quatrefoil’ or ‘pentafoil’ lamps, depending on the number of folds, where that can be ascertained.

Examples of the type are scattered through the OK, with the small number of examples clustered in the early OK rather than later, as Reisner had assumed (Reisner and Smith 1955: 101; Scandone Matthiae 1981: 123). Aston also notes that Chephren diorite was used from about the 2nd Dynasty, and more commonly in the early part of the OK (Aston 1994: 63-4). The best Egyptian parallel is an uninscribed Chephren diorite bowl from Giza Tomb G 1024, dated to the 5th–6th Dynasty (Reisner and Smith 1955: 101, fig. 147, pl. 45a-b), but recently re-assigned to the 4th Dynasty or earlier (Roehrig 1999: 24). A fragmentary example with more concave edges was identified in the tomb of Queen Neit, contemporary with the reign of Pepy II (Jéquier 1933: 30, fig. 11), which may be an earlier vessel or heirloom. Related ceramic types are known throughout the OK, but these are generally deeper in profile. A deep flaring bowl with a quatrefoil rim comes from the Hetepheres tomb (Reisner and Smith 1955: 66, fig. 61, 675/165), and deep five-sided bowl dates to the 6th Dynasty (Reisner and Smith 1955: 85, fig. 122).

[181] *Regs TM.77.G.967 and 969* (Fig. 32) Fragments of a Chephren diorite lipped bowl or lamp (?).

Date of object: 5th-6th Dynasty.

Published in: Scandone Matthiae 1981: 106, 122-3, fig. D.Ab.17.

Comment: The fragment is described as a lamp in the publication but the drawing does not suggest this.

[182] *Regs TM.77.G.944, TM.77.G.956 and other numbers* (Fig. 32) Fragments of eleven travertine lipped or spouted bowls. Other fragments probably belonging to such bowls were also found (Scandone Matthiae 1981: 116).

Date of objects: late 5th-6th Dynasty.

Parallels: Ceramic and stone bowls with the rim folded over forming a single shallow spout were common in the late 5th-early 6th Dynasty (Reisner and Smith 1955: 80, fig. 109; Seidlmayer 1990: fig. 81, K-A05.01; *contra* Hawass 1992: 331). Travertine and Chephren diorite examples from the tomb of Neit suggest the shape continued to the end of the 6th Dynasty (Jéquier 1933: figs 10 bottom second from right, 11, bottom left, fig. 13d, fig. 14b). A quantity of travertine sherds of this type were found at Ebla and on the basis of Egyptian parallels must be dated no earlier than the late 5th Dynasty.

Published in: Scandone Matthiae 1981: 113-6, fig. G.Bc21-30, fig. 29-34.

[183] *Reg. TM.78.G.285a-b* (Fig. 32) Fragments of two travertine tall flat-based jars.

Date of objects: 5th-6th Dynasty (?).

Published in: Scandone Matthiae 1981: 116-8, fig. H.Bd.32-3.

Comment: Although Scandone Matthiae cites a parallel for Bd. 32 (1981: 124, fig. H) in reality these pieces are too generic for any definitive conclusions about the shape. They probably both come from high shouldered, flat-based travertine jars that occur throughout the OK. During the 6th Dynasty, large travertine stone jars with narrow bases are known from royal and elite tombs (Jéquier 1929: fig. 95; Jéquier 1936: fig. 6), while related material appears in the corpus from Byblos [154] (shape only).

[184] *Regs TM.78.G.147, TM.76.G.635 and TM.77.G.711* (Fig. 32) Body fragments of a travertine shouldered jar. Nos 635 and 711 bore traces of burning. Fragments of two other similar jars, one with traces of burning, were also found (Scandone Matthiae 1981: 118-9).

Date of objects: 4th-6th Dynasty.

Parallels: AUB 5025, AUB 5032, von Bissing 1904: pl. 11, no. 18146-41.

Published in: Scandone Matthiae 1981: 116-9, fig. H.Bf.36.

[185] *Reg. TM.80.G.179* (Fig. 33) Fragment of a travertine hole-mouth jar.

Date of object: 4th-6th Dynasty.

Parallels: Bruyère et al. 1937: pl. 17, 22 - from early 6th Dynasty tomb travertine 'holemouth' jar inscribed with the cartouche of Teti. This example is squatter and flatter.

Published in: Scandone Matthiae 1981: 118, fig. G.Be.34, fig. 26.

Comment: Such rims are normally associated with ceramic hole-mouth jars from the EB III Levant.

[186] *Reg. TM.77.G.600* (Fig. 33) Part of a circular travertine lid with a round stopper on the underside, bearing the name of Pepy I. Mended from fragments with smoke staining on the surface. Across the top is inscribed a single line of hieroglyphs within a long cartouche, reading from right to left [Mr]y t3wy nsw bity s3 Hwt-Hr nbt 'Iwnwt Pp[y] '...beloved of the Two Lands, King of Upper and Lower Egypt, son of Hathor, Lady of Denderah, Pepy [I]...'.

Date of object: 6th Dynasty, reign of Pepy I.

Published in: Scandone Matthiae 1979: 37, fig. 13a-b, 14; Scandone Matthiae 1981: 119; Weiss 1985: 170, no. 79; Scandone Matthiae 1997: 416.

Comment: Possible other fragments of a similar object were also found (Scandone Matthiae 1981: 119). The presence of this vessel provides an important terminus date for the destruction of the Palace G complex (Scandone Matthiae 1979: 42-3).

[187] (not illustrated) Fifty fragments from vessels of Chephren diorite, shape unable to be determined.

5.5.1. Discussion

These fragments are all Egyptian on the basis of shape, material, inscriptions and technology. At least 57 individual vessels were isolated but the shapes of many other pieces were unidentifiable [187] (Scandone Matthiae 1981: 120). Despite the dispersed nature of the findspots, they are regarded as belonging to the same group (Scandone Matthiae 1981: 120).

The shapes represent a fairly limited range of Egyptian types, mostly open shapes, comprising simple bowls, carinated bowls, quatrefoil cups, lipped bowls and a small number of jar fragments. Nos [180] and [186] were inscribed with Egyptian king's names. The dominant stone type was travertine, but a small number of vessels were made of Chephren diorite (Scandone Matthiae 1981: 120). Both stones were in use throughout the OK, with travertine utilised from late Predynastic times, and Chephren diorite appearing from the 2nd Dynasty (Aston 1994: 63-4).⁸⁸ The importance of the Ebla corpus is discussed in Ch. 8.2.5.

5.6. Hama

Inadequate publication of much early material from Hama renders assessment of its significance difficult. However, several interesting objects point to a connection with Egypt. For example, a faience cylinder seal bearing diagonal incision marks in Level K (EB III) (Ingholt 1940: 23, pl. 6.6) has good parallels with a seal from late 5th–6th Dynasty Edfu, and late 6th Dynasty Qau/Matmar Dynasty (Seidlmayer 1990: fig. 81, SF-A; fig. 82, SF-A). However, whether this represents a local product or import must remain an open question, given the likely presence of a north Syrian faience working industry (Foster 1979: 28-9; Ch. 8.5.1). Little more can be said of this material without further examination or scientific analysis.

Several ED Egyptian stone vessel fragments from the same jar were also reported (Ingholt 1934: 12). The stone was described as black with white grains, suggesting an andesite porphyry or hornblende diorite (see Aston 1994: pl. 1, 3-4). Unfortunately no picture was published, but Ingholt described it as similar to a squat spheroidal jar with horizontal dummy tubular handles found at Byblos (1934: 12, see Montet 1929: pl. 42.78). These vessels have a broad date range from the 1st-5th Dynasty (Aston 1994: 131, no. 108). The context of the fragments was described as Trenches H10 and G10 (1934: 12), contexts not synchronised with the OK.

⁸⁸ The term 'Chephren diorite' is used here in preference to anorthosite gneiss.

5.7. Alalakh (Tell Atchana)

Excavations by Woolley at Alalakh unearthed a large number of Egyptian or egyptianising stone vessels, but most of these were in Middle and Late Bronze Age levels (Woolley 1955: 292-6, pls 80-2). One travertine bowl with an everted rim certainly belongs to the 6th Dynasty, but was found in MBA Level VII (Woolley 1955: 295, no. 8, AT/39/124, pl. 81.8; compare to Jéquier 1933: fig. 9, top). Little significance can be attached to this and such vessels should be regarded in the same light as early vessels found in later contexts elsewhere in the Levant.

5.8. Anatolia

It is questionable whether OK Egyptian objects in Anatolia arrived during that time. A 5th Dynasty gold cylinder seal inscribed with the names of Menkauhor and Djedkare-Isesi, said to be found in a tomb in western Anatolia near the Pactolus Valley (Young 1972: 11, fig. 8), is without a verifiable provenance (Schulman 1979: 86).⁸⁹ Likewise, the mysterious Dorak treasure is said to have contained the name of Sahure inscribed on gold foil used on a chair (Leclant 1961: 397; Mellaart 1966: 152, Tomb I). The arrival of furniture from Ebla is recorded in a text from the Third Dynasty of Ur (c. 2120-2000 BC) so evidently such precious items were used as an elite traded item or gift (Pinnock 1984: 23). Other finds from Dorak included stone vessels, silver objects and semi-precious stones (Leclant 1961) some of which may have been Egyptian. Again the veracity of these finds is so hotly debated that they cannot be seriously considered as evidence for direct or even indirect Egyptian contact with the region. The objects cannot be even located for further study (Schulman 1979: 86-7).

5.9. Cyprus

Little reliable *aegyptiaca* is attested from Cyprus in the third millennium BC. Peltenburg reported faience disc beads from Kissonerga, in contexts dated to c. 2700-2400 BC (Late Chalcolithic Period), equivalent to the 3rd-5th Dynasties and EB III in Canaan (1995: 32-34). He also noted that some beads had been glazed using efflorescence, a technique well-known in Egypt (1994: 34). Importantly, 'these faience [beads] antedate the hitherto earliest known examples in Cyprus by as much as 500 years' (Peltenburg 1994: 34). Other faience disk and spheroidal beads come from Lapithos and Vounous, with a possible range of 2300-2000 BC, but the date of this material is by no means settled (Peltenburg 1995: 35). Given the presence of a faience working

⁸⁹ I am doubtful about the authenticity of this object.

industry in north Syria, it is probable that this material originates there (Foster 1979: 56-9).

From Vasilia Tomb 103 (c. 2500-2350 BC), Stewart noted two stone vessels of possible foreign origin. The first was a one-handled jar with a wide flat base, made of what sounds like gypsum to judge from Stewarts' description (Stewart 1962: 274, fig. 104.9). Well-made stone one-handled jugs are found in the ED and OK (e.g. Firth and Quibell 1936: pl. 103.3), but these are quite different to the rather rude manufacture of the Vasilia example and thus it is unlikely to be Egyptian. The other vessel from the same context is likely to be Egyptian on the basis of the material and available parallels. Stewart also noted fragments of another unidentifiable 'alabaster' vessel from Vasilia Tomb I (1962: 274).

[188] Vasilia Tomb 103 No. 3 (Fig. 33) Large, straight-sided bowl of banded gypsum, unevenly shaped, with a flat rim.⁹⁰ Ht 35.0cm.

Date of context: Early Cypriot Philia culture, c. 2500-2350 BC.

Date of object: 3rd Dynasty.

Parallels: The Vasilia bowl is wider and squatter than the types published in Reisner but Egyptian parallels are still valid - Reisner 1931a: 161, fig. 35.17-8, 169, fig. 41.12-4; Goneim 1957: pl. 46, bottom row (note unevenly hewn shapes); Aston 1994: 128, no. 103 (3rd Dynasty types from Bet Khallaf and Saqqara); Spencer 1980: 18.

Published in: Stewart 1962: 274, fig. 104.8; for a photo, see Hennessy et al. 1988: 29, no. 3, described as 'alabaster', fig. 63.

5.10. The Cyclades

The only object in the Cyclades suggestive of OK links is the well-known stone bowl inscribed with the name of Userkaf's Sun Temple (Evans 1897: 349; Sethe 1917: 55-8; Smith 1965a: 9, fig. 10). Ward suggested that it arrived on the island during the 5th Dynasty as an offering to a well-known temple located there, but this is totally speculative (1963: 33, 35). The vessel was not found in a stratified context thus has no value as evidence for OK contact with the region (Vercoutter 1954: 47-52; *contra* Smith 1971: 181). More likely, the vessel arrived during the LM era, equivalent with the latter part of the SIP or later, the result of tomb robbing or trade (Phillips 1992: 180-1). A seal impression bearing an ape on a pot sherd from Polyochni on Lemnos may have late OK Egyptian antecedents (Hood 1997), however, the connection is very distant. Little can be other than a possible exchange in down-the-line Egyptian *exotica*, if the seal which made the impression (not found) is to be identified as Egyptian.

⁹⁰ The writer has not examined this vessel personally.

There are no Egyptian objects found in-context on the Greek mainland (Lambrou-Phillipson 1990: 170).

5.11. Crete

Suspected Egyptian material in Pre-Palatial EBA Crete attracts considerable debate. It embraces a possible raw materials trade (e.g. gold, hippopotamus ivory), imitations of Egyptian manufactured objects and imported Egyptian manufactured goods such as stone vessels (Bevan 2004: 110). Many of these finds are well-known, widely published and would generally fall into the category of luxury items (Pendlebury 1930; Evans 1935; Ward 1963; Warren 1969; 1981; 1991; 1995; Lambrou-Phillipson 1990; Phillips 1991b; 1996). However, each of these classes is not without its problems, especially given that a great deal of possible material is poorly stratified or in contexts with wide date ranges, and there are a range of potential sources in the Near East for certain raw materials and technologies. Moreover, archaeological and textual evidence in Egypt for a direct link with Crete in the third millennium BC is non-existent.

In particular, separating imports from the local product has proved difficult. For example, calcite and serpentine, materials used for manufacturing stone vessels, is widely available in Crete as well as Egypt (on this, see e.g. Barbieri 2002a, b). Direct Egyptian parallels for many objects are often wanting, leading to the suggestion that they were local products rather than imports (e.g. Phillips 1996: 461, fig. 2). Material which is unlikely or of uncertain Egyptian origin includes:

- faience disk beads from Tomb VI, a rich EM II burial at Mochlos on eastern Crete (Seager 1912: 55, pl. 6.35). Other faience beads from Crete are known but may be of later date (Peltenburg 1995: 39, fig. 1; Warren 1995: 2). Like the Cypriot faiences they probably originate from north Syrian workshops rather than Egypt (Foster 1979: 56-9; *contra* Karetsou 2000: 5), part of a 'relay' or down-the-line trading system initiated in northern Syria or Cilicia (Peltenburg 1995: 40);
- gold beads for jewellery (e.g. Lambrou-Phillipson 1990: 260-1, nos 206-7), citing the absence of the metal in the Cyclades as proof that it did not come from Anatolia (Warren 1995: 1). This weak argument would require scientific testing to settle, however it has been noted that gold on Crete may have come from Euboea or Macedonia (Branigan 1991: 100);
- a faience bowl fragment from Mochlos Tomb VI (Seager 1912: 31), which does not exist anymore and was too incompletely recorded (Lambrou-Phillipson 1990: 52);
- limestone figurines from Tholos B at Koumasa in the Mesara which are more likely Minoan than Egyptian (Lambrou-Phillipson 1990: 232-3, no. 138-9, fig. 19);

- carnelian or chalcedony used for beads found in Tombs VI and XIX at Mochlos, 'if the materials are correctly identified by Seager' (Branigan 1991: 100);
- various seals and amulets which at first glance might seem to be Egyptian but for which a local provenance is likely, e.g. an ivory sitting monkey (Iraklion Museum 1570, Lambrou-Phillipson 1990: 270, no. 236, pl. 59); an ivory seal (Fig. 33a) (Iraklion Museum 743, Lambrou-Phillipson 1990: 261-2, no. 205, pl. 58), all from mixed EM-MM contexts (e.g. Lambrou-Phillipson 1990: 237-8, no. 152, pl. 58).

Stone vessels of probable Egyptian origin were found at Knossos, including a fragment of a cylinder jar in a Late Neolithic context (Warren 1969: 112, G6 and references; Phillips 1991b: no. 113), and two fragments of diorite(?) bowls (Warren 1969: 109-10, A5 and 10; Phillips 1991b: nos 114-5), all in EM I contexts. Problematically, the pieces cannot now be found and at least one, possibly two, are probably from LM levels or contexts disturbed by later building activity (Bevan 2004: 111). Two joining fragments of an ED diorite bowl were also found at Knossos (Warren and Hankey 1989: 125, fig. 1.2, pl. 1b; Phillips 1991b: no. 116) in a deposit described by Warren as 'virtually pure EM II' but Phillips noted that it also contained EM III-MM I sherds, so again the deposit is mixed (see also Lambrou-Phillipson 1990: 216, no. 85). A possible OK Chephren diorite pyxis was found in Aghia Triadha Large Tholos, dating to the EMII-MMIB/II (Warren 1969: 111-2, D 327, P 604), a range too broad to define the vessel as an in-context OK import (Lambrou-Phillipson 1990: 193, no. 22; *contra* Bevan 2004: 113).

However, a significant quantity of locally-produced stone vessels are regarded as egyptianising, found in comparable levels at various sites in Crete. These are discussed in Ch. 8.2.6. Of likely Egyptian origin is:

[189] *KSM RRS/72/524* (Fig. 33) Fragment of an obsidian bowl, beaker or chalice. H. 1.05cm. W. 1.15cm. Th. 0.21cm.

Prov. and Date of deposit: Knossos, Royal Road, Trench E, Phase 14: EM IIA.

Date of object: Possibly 1st Dynasty or later.

Published in: Warren and Hankey 1989: 231, pl. 1A; Lambrou-Phillipson 1990: 222, no. 105, pl. 70; Phillips 1991b: no. 120 and references; Warren 1995: 1; Phillips 1996: 459; Bevan 2003: 58.

Comment: In identifying the piece as Egyptian, Warren notes that hard stone vessels of this quality were not produced in Crete during the EM II (Warren 1981: 633-5). The fragment is small and thus the precise nature of the original vessel is hard to assess: Bevan proposes a 1st Dynasty flaring cup and thus an heirloom (2003: 58), but a small bowl, dish or beaker is also possible (see Aston 1994: 117-8, nos 64-7; possibly also a smaller OK version of 133, no. 112). Phillips notes that the colour of the fragment 'accords well' with Lucas'

description of obsidian in Egypt, being 'black, grey green or brown in colour' (1991b: no. 120). This seems to be the only stone vessel from a secure EM II provenance about which scholars agree is probably Egyptian. However, the stone has not been 'fingerprinted' which would clarify its origin (Phillips 1996: 459-60).

[190] *HM Y 4113* (Fig. 33) Faience flat-based cylindrical jar, with an everted square rim. Surface unevenly glazed, colour now faded to a pale green. Ht 5.8cm. D. rim (max.) 7.0cm.

Prov. and Date of deposit: A burial cave in Maronia Siteias, which generally dates to the EM II-III (Phillips 1991b).

Parallels: Aston 1994: 102, no. 30 (stone), dated to the 1st Dynasty; Quibell 1900: 7, pl. 18.13 (small faience vase with lid, everted rim, body tapering to a small base).

Date of object: Probably ED.

Published in: Phillips 1991b: no. 396 and references.

Comment: The object is identified as Egyptian based on available parallels (Panagiotaki et al. 2004: 151) but it has not been seen in person by the writer.⁹¹ Phillips also rightly regards it as an Egyptian import, albeit an out-of-context given the early date of available parallels (Phillips pers. comm. 3/4/08). The object in size, style and workmanship is very reminiscent of faience from the Main Deposit at Hierakonpolis and also votive faience objects from similar early temple deposits at Abydos, Tell Ibrahim Awad and Elephantine (for a summary of references, see Sowada 1999).

[191] A worked hippopotamus canine (not illustrated).

Prov. and Date of deposit: Knossos, EM IIA context (3rd-5th Dynasty).

Published in: Krzyszkowska 1984; 1988; Phillips 1996: 459-60.

Comment: This is probably imported from Egypt (see Ch. 7.3.4).

5.12. Conclusion

Aegyptiaca in the northern Levant largely consists of stone vessels from Byblos and Ebla. A small amount of material is noted from Crete.

Contrary to impressions given in much of the literature, in-context Egyptian stone vessels in the region, and especially at Byblos, are relatively few in number. Importantly, at the Ba'alat Gebal temple, only four fragments of individual vessels and further fragments of an unspecified number of stone vessels were found in-context. Possibly this number was once higher, and may have included Montet's burnt vessels and other fragments found in later

⁹¹ My thanks to Dr Jacke Phillips for sending me an excellent colour photograph and for providing details about the object.

levels, but this cannot be established. Rather, the largest quantity of Egyptian stone objects (28) at Byblos was discovered in Saghie's terminal Phase KIV of a palace or elite residence, and even here vessels dating from the ED through to the 6th Dynasty were from a single context. Either this represents a storage facility for precious items, an heirloom factor, with vessels arriving over a long period of time and kept as precious objects, or old and new vessels arriving at roughly the same era through down-the-line mechanisms or from a stone vessel repository in Egypt. Non-Egyptian stone vessels from Syria or Mesopotamia appear to have been found in this group, lending support to the theory of Saghie that this deposit represented a collection of vessels acquired through wide-ranging elite mercantile activity.

At Byblos, shapes span both open and closed forms. Bowls, platters, jars and ornamental vessels were found, in addition to the stem of a headrest. Some of these could have been containers for products, but others served no such function, such as the headrest stem. The same can be said for the seals, but again considerable doubt surrounds both the contexts and, in respect of the well-known 'Byblos' seal, even the production date.

The stone vessels from Ebla form an interesting comparative group. They were found clustered within several contexts in Palace G, a building associated with the city's rulers. Like the Byblos stone vessels, they featured royal inscriptions from the 4th (Khafre) [180] and 6th Dynasties (Pepy I) [186], along with a wide range of other OK types. Open shapes of travertine or Chephren diorite were the most common, comprising nearly 88 per cent of shapes that could be reconstructed. No other Egyptian objects were found at Ebla. The stone vessel imports from Byblos and Ebla are discussed in more detail in Chapter 8.

Table 7: Summary of imported Egyptian material in the northern Levant

<i>No.</i>	<i>Item</i>	<i>Site</i>	<i>Date of Object</i>	<i>Context Date</i>
[150]	Travertine lid	Byblos, B-G temple	OK	Phase KIV
[151]	Fragts travertine jar	Byblos, B-G temple	5th Dynasty, Unas	Phase KIV
[152]	Fragt travertine jar	Byblos, B-G temple	5th Dynasty, Niuserre	Phase KIV
[153]	Fragt travertine jar	Byblos, B-G temple	Late 5th-6th Dynasty (?)	Phase KIV
[154]	Fragts stone vessels	Byblos, B-G temple	Various	Phase KIV
[155]	Travertine jar	Byblos, Blg XXII-III	4th-5th Dynasty (?)	Phase KIV
[156]	Fragt travertine jar	Byblos, Blg XXV	ED-5th Dynasty (?)	Phase KIV
[157]	Fragt diorite vessel	Byblos, Blg XXV	4th Dynasty, Hetepheres	Phase KIV
[158]	Fragts travertine platter/table	Byblos, Blg XXV	6th Dynasty, Pepy I or Pepy II	Phase KIV
[159]	Fragts travertine jar	Byblos, Blg XXV	5th-6th Dynasty	Phase KIV
[160]	Fragts travertine jar	Byblos, Blg XXV	5th-6th Dynasty	Phase KIV
[161]	Fragts travertine jars	Byblos, Blg XXV	5th-6th Dynasty	Phase KIV

[162]	Fragt travertine jar	Byblos, Blg XXV	5th-6th Dynasty	Phase KIV
[163]	Fragts travertine bowls	Byblos, Blg XXV	ED-4th Dynasty	Phase KIV
[164]	Fragts diorite bowls	Byblos, Blg XXV	ED to 4th-6th Dynasty	Phase KIV
[165]	Fragt travertine bowl	Byblos, Blg XXV	4th-6th Dynasty	Phase KIV
[166]	Fragt travertine jar	Byblos, Blg XXV	OK	Phase KIV
[167]	Fragt gneiss jar	Byblos, Blg XXV	OK	Phase KIV
[168]	Fragt travertine jar	Byblos, Blg XXV	ED or OK	Phase KIV
[169]	Fragt travertine jar	Byblos, Blg XXV	OK	Phase KIV
[170]	Fragt travertine jar	Byblos, Blg XXV	OK	Phase KIV
[171]	Fragt travertine jar	Byblos, Blg XXV	5th-6th Dynasty (?)	Phase KIV
[172]	Fragts travertine jars	Byblos, Blg XXV	4th-6th Dynasty (?)	Phase KIV
[173]	Fragt stone jar	Byblos, Blg XXV	3rd-4th Dynasty	Phase KIV
[174]	Fragts travertine plate	Byblos, Blg XXV	5th-6th Dynasty (?)	Phase KIV
[175]	Stem travertine headrest	Byblos, Blg XXV	4th-6th Dynasty	Phase KIV
[176]	Fragts gneiss bowls	Ebla, Palace G	3rd-6th Dynasty	Phase IIB1
[177]	Fragts gneiss bowls	Ebla, Palace G	Early 4th-6th Dynasty	Phase IIB1
[178]	Fragts travertine bowls	Ebla, Palace G	4th-6th Dynasty	Phase IIB1
[179]	Fragts stone bowls	Ebla, Palace G	4th-6th Dynasty	Phase IIB1
[180]	Fragts gneiss lamps	Ebla, Palace G	4th Dynasty, Khafre	Phase IIB1
[181]	Fragt gneiss bowl	Ebla, Palace G	5th-6th Dynasty	Phase IIB1
[182]	Fragts travertine bowls	Ebla, Palace G	Late 5th-6th Dynasty	Phase IIB1
[183]	Fragts travertine jars	Ebla, Palace G	5th-6th Dynasty (?)	Phase IIB1
[184]	Fragts travertine jars	Ebla, Palace G	4th-6th Dynasty	Phase IIB1
[185]	Fragt travertine jar	Ebla, Palace G	4th-6th Dynasty	Phase IIB1
[186]	Fragt travertine lid	Ebla, Palace G	6th Dynasty, Pepy I	Phase IIB1
[187]	Fragts gneiss vessels	Ebla, Palace G	OK	Phase IIB1
[188]	Gypsum bowl	Vasilias, Tomb 103	ED-3rd Dynasty	EC Philia
[189]	Fragt obsidian bowl	Knossos	1st Dynasty or later	EM IIA
[190]	Faience jar	Maronia Siteias	1st-3rd Dynasty	EM II-III
[191]	Hippo canine	Knossos	3rd-5th Dynasty	EM IIA

Other OK *aegyptiaca* is known from Alalakh, Ugarit and the Cyclades but none was found in secure third millennium contexts. As a result, they cannot be considered as evidence for Egyptian contact. A bowl from Cyprus may be Egyptian, but without personally examining the object, this cannot be confirmed. *Aegyptiaca* from Anatolia is also of questionable provenance and thus has no bearing on the question of OK contacts in the eastern Mediterranean.

Many other OK stone vessels have been found in Crete but again these are from MM-LM deposits, or unstratified. The only reasonably secure evidence from Crete are several pieces of Egyptian *exotica*. In the absence of any

corroborating textual evidence, it is hard to ascribe these to direct contact with Egypt during the third millennium. The objects may have originated in Egypt before travelling over the anti-clockwise Mediterranean sea-route via Byblos and Ugarit. Such objects cannot be offered as proof of direct contact but rather a far-flung down-the-line trade in Egyptian *exotica* (Ward 1963: 42, 55; Phillips 1996: Ch. 4).

6. IMPORTED CERAMICS IN EGYPT AND THEIR ORIGINS

6.1. Introduction

For years it has been assumed that most of the foreign jars in OK tombs came from Byblos (Reisner and Smith 1955: 73-6; Hennessy 1967: 84; Stager 1992: 39, 41). This assumption was made largely on the basis of close links between Byblos and Egypt attested in literary sources, along with several physical properties of the pots, notably the presence of a white slip (Prausnitz 1954: 92). Parallels could also be drawn between Egyptian and Byblite material (Reisner and Smith 1955: 75; Hennessy 1967: 83-4; Stager 1992: 38, fig. 7.12). The first detailed scientific analysis of the jars also confirmed that some came from Byblos (Esse and Hopke 1986: 333-8).

This chapter examines all known imported pottery on the basis of shape, ware, distribution and chronology. Central to this study is an analysis of selected vessels by Neutron Activation Analysis (NAA) and PIXE-PIGME. Particular attention will be paid to the samples used for these studies. It will be seen that the group is far from homogenous, representing a variety of production centres and chronological variations.

6.2. Previous research on imported ceramics

Using a form of fabric analysis, Reisner was the first to identify a group of Giza ceramics as imports. Reisner and Smith's major study on the pottery divided the Giza corpus by shape, designating two-handled Combed Ware jars Group B-LIV, and one-handled jugs as Group B-LIIIa and b (Reisner and Smith 1955: 73-6, Ch. 3.3.1). These broad groupings, while convenient, mask significant differences in size, fabric, ware and surface treatment, variations that were not recorded at the time.

Helck refined the Reisner/Smith classification, further dividing both ED and OK foreign wares on more detailed typological criteria such as height:width ratio and handle placement (Helck 1971: 28-34). Using Reisner and Smith's dating of the corpus combined with his own observations, Helck's tabulated results showed that the largest number of Combed Ware imports arrived in the 4th Dynasty, tapering off towards the end of the OK (Helck 1971: 33). More recently, Esse examined Combed Ware in the Levant (and Egypt to a lesser extent) from the perspective of technology, ware and elemental composition (Esse and Hopke 1986; Esse 1991: 110-24).

Other scholars have attempted to identify an origin on the basis of seal impressions, potter's marks and applied decoration (Mazzoni 1985), all of which appear in various forms in the Giza corpus. Once again, the wide geographical distribution of many elements means that only the most general conclusions can be drawn when using these criteria alone (Esse 1991: 112).

The problem with all these approaches is that unless one can examine sherds from every relevant site personally, conclusions are very dependent on the quality of, and detail included, in the excavator's publication. As Combed Ware was widely distributed throughout the Levant, observations based on potmarks or surface finish alone cannot be used to identify provenance.

Elemental and petrographic analysis allows the question of provenance to be placed on a less subjective footing. Various forms of elemental analysis, such as NAA, have been used to identify patterns of Levantine trade and exchange networks (Hennessy 1967: 115 n. 73; Kaplan 1980; Kaplan and Harbottle 1982; Esse and Hopke 1986). While such studies are frequently conducted in other parts of the Levant, the same cannot be said for Egypt, owing to the difficulty of accessing samples from secure contexts, particularly from recent excavations. Material from older excavations is often scattered around the globe, and sometimes suffers from the absence of good contextual information, thereby diminishing value for scientific study. In this respect, further analysis is required to place typological and fabric studies on a firmer scientific footing.

6.3. Typological Categories

6.3.1. Combed Ware (Type 1)

The largest quantity of imported ceramics is so-called two-handled Combed Ware jars. Several terms appear in the literature to describe them, but here the phrase 'Combed Ware' is used for ease of reference (following Esse 1991: 109-16).

Combed Ware sherds are known from almost every EB III site in the southern and littoral northern Levant, including Byblos (Dunand 1958: 724-5, pls 82.14750, 112.15835), Ras Shamra Phase III A1 (de Contenson 1989: 320-1, fig. 4), Sidon and elsewhere in coastal Syria/Lebanon (Esse 1991: 112-4). At Byblos, the type is first seen in Phase KI and continues through Phase JII, equivalent to the FIP/early MK (Saghieh 1983: 108). The ware is also known from EB III sites in northern and southern Canaan (Prausnitz 1954; Esse 1991: 110-1; Greenberg and Porat 1996: figs 5-6). Complete vessels in the Levant are relatively rare (Hennessy 1967: 72). While it also occurs to a lesser extent in the EB II, appearance of the ware, in association with Khirbet Kerak Ware, is a classic marker for the EB III.

A number of two-handled jars with and without combing occur at 1st Dynasty Abydos and Saqqara (Petrie 1900: pl. 38.9; Petrie 1902: pl. 8.6-8; Petrie 1925: 5, pl. 4.9-10; Emery 1958: 54, Type 14). Petrie described them as 'Amorite' (Petrie 1900: pl. 38.9; Petrie 1925: 5; Prausnitz 1954: 91; Porat and Adams 1996: 100, UC 17388).⁹² One complete vessel was possibly Metallic

⁹² I am indebted to the late Mrs Barbara Adams, former Curator of the Petrie Museum

Ware: Petrie described the fabric as ‘remarkably hard, tinkling when struck, unlike any Egyptian pottery’ (Petrie 1925: 5). A base of a similar jar is also known from ED Buto (Köhler 1998b: 144, pl. 68.9), but the fabric is not Metallic Ware, suggesting an origin in southern Canaan (Köhler pers. comm. 23/10/00) or possibly Beth Yerah (Porat and Adams’ fabric Group B).⁹³ These ED examples are ‘squat and globular’ compared to those from the OK (Stager 1992: 29). A narrow vessel with a long neck was found in a 2nd-3rd Dynasty Saqqara tomb; the fabric is described as ‘poterie très fine’ but little more is known (Macramallah 1940: 36-7, no. 20, fig. 29). The shape also occurs in the EB II Levant, where the surface was often slipped and roughly burnished (Mazar et al. 1973: pl. 6.34). Incised or impressed collars at the base of the neck imitating rope also appear at this time (Garstang et al. 1936: pl. 6.15).

Hennessy included the ED Combed Ware sherds from Abydos in his spectrographic study of foreign pottery, noting that the chemical signatures could not be separated from other Abydos Wares (1967: 115 n. 73). This might suggest that during the EB II, small quantities of Combed Wares were also coming from the Galilee and/or the region of northern Israel/Mount Hermon.

In the OK-EB III, the importation of Abydos Ware declined, replaced by two-handled containers (Prausnitz 1954: 94-6; Stager 1985: 179). The jars were hand-built using coils from the bottom up, and the rim was often finished on a turning device (Greenberg and Porat 1996: 10). Some vessels show evidence of having been built in sections, with bases formed in a mould [15], the body constructed with slabs and the neck and rim added separately. The functionality of the shape, hard lightweight fabric and relative simplicity to seal made the vessels ideal for transport (Greenberg and Porat 1996: 11). The commodity within was probably a liquid, judging by the narrow shape of the neck (Hennessy 1967: 72) and the use of a hard plaster seal on some vessels [47, 49, 52] (Esse 1991: 124).⁹⁴

The exterior surface often features a ‘combed’ decoration, executed by the potter before firing, when the vessel was leather hard. The patterns consist of horizontal, vertical or diagonal lines or combinations of these, made with a comb-like tool. Prausnitz suggests that combing was a ‘decoration...derived

(University College London), and the current Curator, Dr Stephen Quirke, for the opportunity to examine ED Combed Ware sherds under their care.

⁹³ Petrography identified a sherd of a combed vessel from Buto that was made of Nile silt: Porat 1989: 80. Wodzińska (2007: 312) identifies this as the Combed Ware base illustrated in Köhler 1998:pl. 68.9, but Porat’s sample is ‘combed, wavy handles’ (see Appendix 5c, sample no. 1374), which is not illustrated on pl. 68.9. Rather, Porat’s sample is not an imitation of a Combed Ware jar, but does illustrate the fact that local potters attempted to imitate imported ceramics.

⁹⁴ Compare actual examples to the wide-mouthed two-handled ‘wine-jar’ illustrated in the Deshasha tomb of Shedû (Fig. 36b).

from basketry [which] gained inspiration from the strings wound around the vessel for the purposes of transport' (1954: 91). However, apart from its decorative effect, the purpose of the combing is not clear (Esse 1991: 114). Stager suggests combing may have been linked to the porosity of the fabric produced in various workshops (Stager 1992: 37); the combing could thus have helped ensure the preservation of the surface coating (Artzy 1987: 3). More prosaically, combing may have served to simply 'mask the joins between the coil' (Greenberg and Porat 1996: 10). Specific workshops or regional craftsmen may have favoured different combing styles (pattern v. simple horizontal lines), although this has not been tested. Some vessels from Egypt are only lightly combed, or not combed at all, e.g. [53].

Another point of difference between various jars is the presence or not of a cream lime wash or slip on the exterior, which helped reduce the porosity of the vessel. This may have had a functional rather than decorative purpose, depending on the contents.⁹⁵ Different surface treatments led some scholars to ascribe them to geographical regions (e.g. presence or not of a slip, nature of the combing) (Prausnitz 1954: 91-2; Hennessy 1967: 84; Stager 1992: 39).⁹⁶ Hennessy believed that Combed Ware sherds from southern Canaan were never coated with a lime slip, whereas jars from Byblos and coastal Syria were treated in such a fashion, thus proving a Byblite origin for the Giza vessels (Hennessy 1967: 84).⁹⁷ Others noted that slip was more common on vessels from southern Canaan, especially Tell el-Hesi (Fargo cited in Esse 1991: 113; Stager 1992: 39). Slipped surfaces are also known from Beth Yerah (Esse 1991: 111). Esse agreed that white slip on the surface appeared to be a more common feature from the south, but that in general 'the appearance of white slip on combed ware jars is not as widespread as combed vessels without slip' (Esse 1991: 110-1, 114).⁹⁸ The disagreement over these points shows that without detailed petrographic and elemental analysis, the specific features of Combed Ware workshops cannot be established.

⁹⁵ In discussing this technique on 18th Dynasty wine jars, McGovern states that not only did 'such treatment [as the application of a white slip and burnishing] help make the vessels more impervious to leakage, but ha[d] the additional benefit for wine that less oxygen is available to allow *Acetobacter* bacteria to multiply and convert alcohol to vinegar' (1997: 75).

⁹⁶ Hennessy was of the opinion that 'all of the Egyptian examples were coated with a heavy cream slip and often pebble burnished' (Hennessy 1967: 84). Personal examination of the jars located in Boston and London, along several jars from Abusir, shows that this is not the case, with a number of vessels unslipped [19, 38, 49-53, 74-80, 95] and none burnished.

⁹⁷ These observations cannot now be verified. None of the Byblos material in the National Museum was available for study when the writer visited Beirut in 1996.

⁹⁸ The writer observed Combed Ware sherds from Byblos with a white lime slip on the surface, very similar to a number of Giza jars, although the contexts are uncertain (AUB 3646a and c).

Over the course of the OK, the Combed Ware shape varied little, although there are considerable differences in the size and wares of individual jars and the odd one-handled vessel is known [47]. Indeed it is difficult to make distinctions which have chronological implications, but the following general observations can be made. Combed Wares appear in Egypt from the early 4th to end of the 6th Dynasty, although at least one could date to the 3rd Dynasty (Macramallah 1940: 36-7, fig. 29.20). Early 4th Dynasty vessels are smaller and have a more rounded rim [5-6, 8] but overall jars get larger during the OK and the folded rim becomes more tooled with a slight overhang, a feature seen in Combed Wares and pithoi from the EB III Levant (de Miroschedji 1988: 233, pl. 45.19; Greenberg and Porat 1996: 12; Yannai 2006). During the late 5th Dynasty, a distinctive tall narrow shape appears [95, 100] and at the very end of the OK vessels have a tendency to become very tall and wide with light or no combing [49-53]. Many vessels that were examined are made of Metallic Ware and its variants, with the 'Red Ware' fabric dominating late OK types (see Ch. 6.10.2).

6.3.2. One-handled jugs and jars (Type 2)

One-handled jugs represent an extension of ED/EB II imported vessels and their contents (Hennessy 1967: 71; Ch. 2.3.7). They were hand-made by coils with the bases made in a mould, with the surface slipped and burnished for added strength. Often pots were finished on a turning device (Greenberg and Porat 1996: 6-10). The lightweight fabric, offering great tensile strength and the functional shape, made such vessels ideal for long distance transport of liquid contents.

In the OK, this type is vastly outnumbered by Combed Ware jars (Esse 1991: 114). Moreover, there is little uniformity of ware or form in the corpus [54-62, 90, 92]. Indeed, so considerably do one-handled jugs vary in shape, size and ware that these vessels cannot be considered as a homogenous group. Some clearly resemble ED imported jugs with a 'metallic' fabric [56], while others are coated with a cream slip [57-9, 90] and feature raised ridge or moulded rope decoration at the base of the neck. This latter feature is also seen on vessels from Byblos Phase KIII and in Canaan (Saghieh 1983: 109). However, specific parallels from the EB III Levant are hard to find.

6.4. Depictions of foreign pottery

Foreign pottery is occasionally illustrated in figurative art. A Naqada IIIB carved ivory label depicting an Asiatic bearing a two-handled jar is one of the earliest representations (Petrie 1901: 22, pl. 4.6). Locally manufactured travertine examples were also made for inclusion in burial equipment in the 1st Dynasty and continued into the OK (Emery 1949: fig. 77, Type DD1; Reisner and Smith 1955: pl. 34a).

Foreign pottery is occasionally shown on the walls of early stelae and OK tombs and temples in both a symbolic and representational manner. The earliest examples date to 2nd Dynasty Helwan (Saad 1957: pls 24, 26) and by the 3rd Dynasty tomb of Hesi-Re, the one-handled jug shape was a standard inclusion in offering lists and scenes (Balcz 1934: 79; Quibell 1913: 21). The concept of the one-handled vessel as a hieroglyphic determinative for the *hnm*-jar also emerged (Balcz 1934: 91-2). Later association of the *hnm*-jar with the seven sacred oils (Balcz 1934: 914) suggests a symbolic link to the contents of original 1st Dynasty imports.

One-handled jugs are illustrated in OK tomb scenes with some frequency. For example, a scene from the late 5th Dynasty Saqqara tomb of Ni-ankh-khnum and Khnum-hotep shows the preparation of wine associated with a one-handled spouted jar (Fig. 36a) (Moussa and Altenmüller 1977: fig. 16; Paice 1989: 60, fig. 8). Interestingly, no actual examples of this type are known with handles, either imported or locally made (e.g. Reisner and Smith 1955: fig. 104, Reg. 14-4-13). The paucity of examples in the archaeological record versus the common appearance of one-handled jars and jugs in OK wall reliefs and offering lists implies the *idea* of a ceramic vessel and its contents rather than quantities of actual pots. Representations of certain shapes may also refer to Egyptian stone vessels imitating foreign ceramic vessels.

Two-handled ceramic jars are sometimes depicted. Again, the shape appears in offering lists from the tomb of Hesi-Re, and in later lists of the seven sacred oils (Quibell 1913: 15.7; Balcz 1934: 82, 94). Many scenes are also known, too numerous to list here. For example, the shape appears in the context of actual use in the tomb of Ptah-hotep (Fig. 37) (Junker 1941: 49, fig. 10). Appearing amongst a group of offerings, the jar is shown along with Egyptian vessels before a seated tomb owner. The early 6th Dynasty tomb of Sheddu at Deshasha illustrates several two-handled jar types and a one-handled jug in a much-damaged grape harvesting/wine making scene (Fig. 36b) (Kanawati and McFarlane 1993: pl. 53). The jars are being filled with wine. While extrapolating the symbolic nature of such scenes into real life must be approached cautiously, the jar with a Nile mud stopper bearing a seal impression of Pepy II found at Giza [53], and several vessels from Abusir had Nile mud stoppers [71-3, 76-9], showing that imported jars were re-used in Egypt.⁹⁹ This custom is probably illustrated in Sheddu's tomb.

In the scene from Ni-ankh-khnum and Khnum-hotep's tomb, a large, wide-necked storage vase with what may be ledge handles is shown (Fig. 36a). The artist has perceived this jar quite differently to physical examples, placing the ledge handle vertically along the vessel wall (Moussa and Altenmüller 1977: fig. 16; Paice 1989: 60). While ledge handles are

⁹⁹ This practice is also known in later periods (Knapp 1991: 24).

common on EB III pottery from Canaan (e.g. Tufnell 1958: pl. 61.255-6), no actual imports have been found in Egypt. Likewise, ledge handles do not occur on OK Egyptian pottery. If the artist is illustrating a foreign vessel, perhaps this is the memory of ledge-handled wine jars from the Late Predynastic era (see for example Dreyer et al. 1993: pl. 9.c-d).

The best-known depictions of foreign pottery come from the Syrian ‘tribute’ scene on the Mortuary Temple of Sahure. Twelve red-painted one-handled jars are shown in association with bears (Fig. 39) (Borchardt 1910-13: pl. 3). The vessels are a very slender type, with a tall neck and long handle extending from rim to shoulder, a shape appearing in the EB II-ED and closest to Emery’s Type G9 (Emery 1958: pl. 123; Amiran 1970b: 59-66; Helck 1971: 30-2, Type I). Many actual jars of similar shape appear in 1st Dynasty tombs at Abydos and Saqqara (Petrie 1901: pl. 54; Emery 1954: fig. 98, G9, G11; Emery 1958: pl. 75, G3, G15). Although one-handled jars of narrow proportions are also known from Byblos Phase KIII and KIV (Saghieh 1983: 92, 106, pl. 36.A8-11), they do not occur in OK Egypt. Only two red-painted one-handled jars are known, one dating to the 4th Dynasty [56] and another belonging to the mid/late 4th-early 5th Dynasty [60]. None have the same proportions as the red-painted jars from Sahure’s temple.

The often symbolic nature of royal reliefs means that the extent to which this illustration can be regarded as an historical event is problematic. Given the detailed rendering of this and related images, especially the accurate drawing of the bears (Houlihan 1996: 195), the scene represents either an actual event during Sahure’s reign or a tableau copied from another monument (Smith 1971: 183). That Sahure engaged in long-distance trading expeditions is shown by his entry on the Palermo Stone, detailing a mission to Punt for myrrh (*Urk.* IV: 246.4). Evidence for Sahure’s direct involvement at Byblos is less persuasive. No ‘signed’ stone vessels have been found at Byblos, and the reading of his name on a fragmentary ceramic cylinder seal is uncertain and was found in a doubtful context (see Dunand 1939: 272, no. 3920). Despite this argument *ex silentio* it is likely that like kings before and after, missions were sent to access products from the region.

Perhaps examples like the pots depicted on Sahure’s mortuary temple are yet to be found. Alternatively, they may be *representations* of imported vessels, rather than *depictions* of actual pots, with the vessel shape becoming a standard image designed to indicate the symbolic acquisition of foreign commodities (see Balcz 1934; Hawass 1995: 230-2).

6.5. Contents

The consensus of opinion is that the jars contained imported olive oil, wine or coniferous resins (Junker 1929: 119, Ward 1963: 53-4; Stager 1985; Lucas

and Harris 1989: 320; Esse 1991: 122; Stager 1992: 39). In particular, coniferous resins were used in mummification, although only people of sufficient status must have accessed this product (Frankfort 1926: 83; Lucas 1931; Ward 1963: 55; Gardiner 1969: 32). It is probably no accident that imports of Abydos Ware, some containing coniferous resins, began at the time when the earliest attempts at mummification are attested (see Petrie 1901: 16-7). As noted above, some imported jars were also re-used in Egypt as wine containers for local vintages, and undoubtedly for other storage purposes.

Depictions of one and two-handled pots in inventories of the seven sacred oils and offering lists are common, as are the words *š*-oil and *šft*-oil, probably denoting imported coniferous oils (Balcz 1934; see also Ch. 7.2.9). However, apart from offering lists, more general references to the contents are rare. One inscription comes from the tomb of Ptah-hotep: offerings piled before the tomb owner include a two-handled jar, and on the same register, an inscription nearby says 'see, the sweet oil' (Pl. 37) (Junker 1941: 49, fig. 10; Kantor 1992: 20).¹⁰⁰

Only a small amount of archaeological evidence provides clues about the original contents. Residue analysis was conducted by Lucas on three Combed Ware jars (Hassan 1936: 145-7; Reisner and Smith 1955: 75; Lucas and Harris 1989: 320), with tests on two vessels from the 5th Dynasty proving inconclusive. The results showed that the contents of a one-handled jug [61] comprised largely calcium carbonate with varying quantities of fatty matter, 'nitrogenous organic matter', and in the other Combed Ware pot [37] a 'small proportion of resins-like material' was identified (Hassan 1936: 145-7).

From another late 4th-early 5th Dynasty jar [25], Lucas found 'true' resin from a coniferous tree that was possibly perfumed (Reisner and Smith 1955: 75; Lucas and Harris 1989: 320), helping confirm that at least some imported vessels contained this substance.¹⁰¹ Esse also noted the presence of Combed Ware sherds associated with an olive press installation at Ras Shamra, suggesting that other vessels may have contained olive oil, depending on their point of origin (Stager 1985; Esse 1991: 122; Stager 1992: 39). At Beth Yerah, a Combed Ware jar was found associated with large vats, assumed to have been used in olive oil production (Esse 1991: 119). Exported oils of this kind may have been perfumed (Stager 1985: 180). Exported commodities from Canaan possibly included special wine vintages, known from other periods especially the New Kingdom (Stager 1985: 179-80; Bavay et al. 2000a: 83-4, see Ch. 7.2.5-6).

Limited residue analysis was also conducted on a Type 2 jug from Dashur [90], with milk, oil perfume and wine excluded as possible contents (Alexanian 1999: 109).

¹⁰⁰ The relationship of the text to the jar in the picture is ambiguous, unless the text refers to the contents of all the jars presented to the tomb owner.

¹⁰¹ In addition, resinous substances may have been used as a sealant to reduce porosity (Esse and Hopke 1986: 334).

As can be seen, insufficient data currently exists about the contents of nearly all imported vessels. As Lucas' residue analysis determined, some jars undoubtedly contained resin from coniferous trees, belonging to trees of the *Pinaceae* family. Further testing of the Boston corpus is required.

6.6. Transport

Esse suggests that dominance of Combed Ware and the decline of one-handled jugs in the OK represents either a change in the commodity, or a change in the mode of transportation (1991: 115-6). Ships rather than overland caravans could transport larger Combed Ware jars, whereas smaller one-handled jugs were more easily handled by travel overland (Hennessy 1967: 72). The narrower shape of EB III Combed Ware jars in Egypt compared to those from the EB II may support the notion that they were transported by sea (Stager 1992: 39).

However, it is hard to judge the method of transportation on the basis of size and shape. In general, Combed Ware jars in Egypt are smaller when compared to the large Combed Ware pithoi of EB III Canaan (Esse 1991: 115), but the range of sizes in the corpus is great. The tallest recorded example in Egypt stands at nearly 60cm [10], with others touching 49.5cm [42], comparable in size to complete vessels from Tel Dan (Greenberg and Porat 1996: fig. 2.3-6) and Tel Erani (Yeivin 1961: pl. 5). Even empty of their contents, some of the Giza vessels are heavy, with [50] weighing 5.188kg (11 lbs 7 oz).¹⁰² Another Combed Ware jar in Boston [52] with plaster stopper intact and presumably its desiccated contents still inside, weighed 7.27kg (16 lbs).¹⁰³

There is no certainty that the ancient sea route was automatically preferred in every case. Size and weight of large vessels was potentially no hindrance to overland trade activity; indeed, a combination of land/sea/river journey is certainly possible. For example, Oren noted the presence of large Egyptian ceramic storage jars at north Sinai sites, some of which stand nearly half a metre tall (Oren 1989: 393, fig. 7.1). These were certainly conveyed for part of their journey via donkey caravan.

The well-known late Chalcolithic/EB I clay statuette from Azor of an ass bearing two large jars illustrates a form of overland transport for large jars (Ben-Tor 1992: fig. 4.6). A Metallic Ware model of an ass carrying two jars strapped to its back dating to the later phases of the EBA suggests a

¹⁰² Pers. comm. 9/5/00: MFA 13.2929 [49], weighed courtesy of Denise Doxey, Assistant Curator, Ancient Egyptian, Nubian and Near Eastern Art, BMFA.

¹⁰³ Pers. comm. 27/7/00: MFA 13.2931 [51], weighed courtesy of Denise Doxey.

continuation of this practice (Greenberg and Porat 1996: fig.4.3). In Nubia, the use of donkey caravans is attested in OK texts, despite the availability of a river route for part of the way, albeit peppered with cataracts (Shinnie 1991: 49). Harkhuf records a caravan of 300 laden asses (*Urk.* I: 127), while Sabni records taking 100 asses to Nubia loaded with products (*Urk.* I: 136). Sizeable official caravans could cover long distances, and were used throughout the OK if this was the most efficient means of transport for a particular journey.

However, noting the absence of 2nd Dynasty sherds from sites along the 'Way of Horus' in north Sinai, Oren suggested that this route was no longer used by this time (Oren 1989: 400). Oren noted that he 'could not determine how late within Dynasty I did the settlements in northern Sinai survive', proposing a date sometime in the 1st Dynasty for their abandonment (1989: 400). This suggests that the Sinai path was probably superseded (but not completely abandoned) by the maritime route. However, that the 'Way of Horus' continued in use during the OK is attested by the appearance of Meydum bowls of mid to late OK date discovered during the survey (Oren and Yekutieli 1990: pl. 6.1-3; Ch. 4.2.3). Further examination of these sites is required to more fully understand the role of the 'Way of Horus' during the OK.

Taking all this evidence into account, OK Combed Ware jars originating in Canaan could have made the trip overland across the Sinai. It is also possible that overland routes which involved the copper exchange were used in conjunction with a coastal sea port(s) in Canaan. Stager has suggested that, on the basis of EB II-III Combed Ware sherds from Ashkelon, this area was part of a coastal trade network stretching along the Levantine coast (Esse 1989: 88; Stager 1992: 41). The connection of the Ashkelon region with a port of call on the north-south maritime route dates back to the EB IA (Gophna and Liphshitz 1996: 148). Sidon and Yavne-Yam may have been similar ports or way-stations. This network not only involved the sea route, but probably also included links with inland centres such as Tel Erani and Tell es-Sakan, located a short distance inland (Gophna and Liphshitz 1996: 149).

Vessels from Byblos (and further afield) were transported by sea, along with coniferous timbers (Marfoe 1987: 27; Esse 1989: 88). Imported bears and jugs on Sahure's funerary installation at Abusir appear to have arrived by ship (Fig. 39).

6.7. Distribution

Helck compiled a table outlining the chronological distribution of specific imported shapes (1971: 33). In Chapter 3, the date of each known vessel was re-examined using published data provided by the excavators, but on the basis of the evidence it was difficult to ascribe many vessels to the reigns of specific

kings as Helck had done.¹⁰⁴ Most could be dated only in broad terms, but this nevertheless does not affect Helck's original observations, that the largest quantity of vessels arrived in the 4th Dynasty (1971: 33; *contra* Marfoe 1987: 27; Stager 1992: 39). The tabulated results are as follows:

Table 8: Distribution patterns of imported pottery (Types 1 and 2)

	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>	<i>VII</i>	<i>VIII</i>	<i>Total</i>
<i>Giza</i>	20	11*	11	5	5	5	5	1	63
<i>Abusir</i>			2				10		12
<i>Saqqara</i>			1	1			2		4
<i>Dashur</i>	1								1
<i>Meydum</i>	1								1
<i>Matmar</i>				1					1
<i>Ballas</i>								1	1
<i>Edfu</i>				2					2
<i>Elephantine</i>						1§		1	2
Total	22	11	14	9	5	6	17	3	87

Minimum number of vessels: 87

* includes sherds from the Giza settlement [53a] tabulated as one vessel although several may be represented by the sherds

§ includes sherds from Elephantine not yet published (see [102]) tabulated as one vessel although more than one may be represented.

Key:

- I = early 4th Dynasty (Sneferu to Khafre)
- II = 4th Dynasty, more specific date not possible
- III = mid-4th Dynasty to early 5th Dynasty
- IV = mid-5th Dynasty to late 5th Dynasty/early 6th Dynasty
- V = 5th Dynasty, more specific date not possible
- VI = 6th Dynasty, more specific date not possible
- VII = 6th Dynasty, reign of Pepy II
- VIII = OK, specific date not possible to ascertain

The largest quantity of jars comes from 4th Dynasty cemeteries with royal burials: Meydum, Dashur and Giza. Very little of this material has come from settlements. Significantly, the biggest group, nearly half the total number in Egypt, were found at Giza, the epicentre of the

¹⁰⁴ Helck does not describe the method by which imported vessels were dated to specific reigns in his table published in 1971: 33.

centralised royal administration. This suggests that the jars and their products did not filter beyond the court during the early OK. Egyptian elites, who also controlled the means of importation and distribution, evidently regulated access to luxury goods (Ward 1963: 54; Marfoe 1987: 27; on this, see Sherratt and Sherratt 1991). Moreover, if the accident of discovery is discounted, it also points to a very active commodity exchange during the 4th Dynasty.¹⁰⁵

A small number of vessels are attested beyond the Giza-Saqqara region, all in later 5th and 6th Dynasty contexts (*contra* Stager 1992: 39). This may point to a weakening of the central administration (Smith 1971: 195), which saw luxury imports filter down to officials elsewhere in Egypt during the later OK (Marfoe 1987: 27). The appearance of a Combed Ware jar in a relatively modest late 5th-early 6th Dynasty burial at Matmar [95] also shows that acquisition of such vessels was not limited to Giza high officials by this time (Kantor 1992: 20; *contra* Ward 1963: 54). One cannot assess to what extent a 'secondary market' may have existed for empty jars, particularly for useful storage vessels with exotic origins. The Matmar jar came from an intact burial, yet one handle was gone, and the rim and part of the neck were missing. The broken neck was sealed with mud over a sherd lid with a layer of leather in between (Brunton 1948: pl. 37.2). This demonstrates that storage vessels were often recycled (see [53]), sometimes for many years after their date of production (Knapp 1991: 24).

The latest known Combed Ware jars from Abusir and Giza come from contexts dated to officials who served Pepy II [49-53, 71-80], although re-use in Egypt of several vessels is certain [53, 72-3, 76-8]. Given that many of the jars were re-sealed with Nile mud caps, this represents secondary use and thus the jars could have been in circulation for some time prior to deposition. Despite its waning influence, these jars (if they are not heirlooms) indicate that the Egyptian state was still engaged in organised product procurement from the Levant at the very end of the OK. It also points to the possibility that more evidence for late OK foreign relations remains to be discovered at cemeteries beyond the Giza plateau.

If the date of some of the late jars are contemporaneous with their contexts, it suggests that despite the imminent collapse of the majority of the urban centres at the end of the EB III, methods of production and exchange were still sufficiently intact to meet the demand for commodity exports. Yet if the EB IV is to be synchronised with the late 6th Dynasty, the question of precisely where the vessels were made in the southern Levant at least (see NAA results on Table 10) remains to be answered. That the area around Byblos continued as a production centre is evidenced by two vessels from the region found in the tomb of Impy, who served Pepy II [49, 51] (Table 10).

¹⁰⁵ However, sustained excavations at Giza over the last 100 years have resulted in considerable quantities of 4th Dynasty material relative to other sites.

6.8. Seals, potter's marks and other decorative elements

A number of potter's marks are known on the corpus. These are placed on the upper body of the vessel, between the handle and the neck. The meaning of these marks is not properly understood: they could signify the workshop producing the vessel, the contents, the end-user or quantity (Esse 1991: 112). Other seals were impressed or rolled on to the cap sealing the mouth of the jar. The marks can be summarised as follows:

(a) Applied 'ram's head' or *buchrania*, or other plastic decoration, for example on [14], which consists of pieces of clay applied to the surface of the shoulder, made of the same clay as the vessel (Pl. 1). Mazzoni attempted to demonstrate a relationship between this motif and similar ones from Byblos, thus apparently confirming a Byblite origin for the Giza jar (Mazzoni 1985). Esse refuted this proposition, correctly noting that the motif is found elsewhere (Esse 1991: 112-3). Nonetheless, when tested by NAA, the jar's provenance was found to be the Byblos area, strengthening the relationship of this motif to the site on this vessel at least. Another vessel bore part of an applied decoration above one handle in the same clay as the body of the pot [13] (Pl. 1).

(b) Distinctive patterns combed or incised on to the body before firing. These include 'arrow' designs incised on vessels of the same ware, which may suggest a similar point of origin [19, 38] (Figs 9-10). Elemental analysis could not identify the provenance any more accurately than 'Syria/Palestine' (Table 10). The most common type of mark is motifs incised onto the surface when the clay was wet or leather hard, placed either above one handle or the shoulder between the handles [22, 26, 37, 39, 47, 83, 100] (Figs 9, 10, 14, Pls 2, 5). Genz noted that such marks in the southern Levant are more commonly seen on closed vessel shapes such as pithoi and hole-mouth jars, further suggesting that they may have been an indication of the type of contents (2001: 226). Three of the Giza vessels bear potmarks in the form of arrows [19], [26] and [38] but no residue analysis has been conducted to detect any commonality in the contents.

(c) A seal impression rolled onto the shoulder of the vessel at the place of production before firing [42], known from only one jar in Egypt (Fig. 11). The design features a quadruped *tête-beche*, with the tail over its back and mouth open, probably representing a lion. Similar seal impressions were also found at Jericho (Sellin and Watzinger 1913: 97-8, 106, fig. 66), Numeira (Lapp 1989: 7-9), Byblos (Dunand 1958: pls 195.18016, 196.11572, 11298; Lapp 1989: 7-9; 1995: 47) and other sites (Helck 1971: 34). Seal impressions rolled pre-firing onto the surface of ceramic vessels are well-known from the EB (Ben-Tor 1977). The design under discussion here has Mesopotamian antecedents (Hennessy 1967: 64) and thought to have originated at Byblos (Lapp 1989: 7-9). However the widespread diffusion of the motif from Byblos to southern Canaan in the EB I-III means that no particular conclusions about

the jar's origin can be drawn from the seal impression. NAA concluded that the jar was from 'Syria/Palestine' but no more specific provenance could be determined.

(d) Egyptian seals with the name of Pepy II were rolled onto a Nile mud cap [53] (Pl. 6). A circular seal was pressed into wet clay [71-2, 76-8] (Pls 10-12) along with seals bearing the names of Pepy I and the official Qar Junior on vessels from Abusir.

(e) Some imports featured an incised collar around the base of the neck [3-4, 13, 50-51, 80, 84] (Figs 8, 14, Pls 1, 6) known from Combed Ware jars and pithoi of the EB II-III (Garstang et al. 1936: pl.6.15; Tufnell 1958: pl. 62.303; de Miroschedji 1988: 223, pl. 40.11; Greenberg and Porat 1996: 9, figs 2.4, 3.5; Yannai 2006). Its origins are found in EB II Canaan, where a ridge or collar appears around the base of the neck (Maisler 1942: fig. 1.39; Amiran 1978a: pl. 100.3; Esse 1991: 106-7; Greenberg and Eisenberg 2002: fig. 13.8.4). Only one Combed Ware jar [73] had a raised collar. Several one-handed jars also have a raised collar [57, 59, 60, 90]. The same feature is also seen on one-handed burnished jars from Byblos in Phase KIII, which provides a good parallel (Saghieh 1983: 79, fig. 23). The most graphic attempt by the potter at plastic realism, a pithos from Arad Stratum II (EB II) features a knotted rope, doubtless imitating the cords used to tie on a lid (Amiran 1978: pl. 106.4). The rope decoration on examples below is probably a simpler version of the same effect.

Saghieh regarded the impressed collar at the base of the neck as evidence of an origin from Canaan rather than Byblos as this feature is not seen on Combed Wares from the site (Saghieh 1983: 106).

6.9. Provenance in the Levant

NAA and PIXE-PIGME results partially support the conclusion that Byblos was the city exporting commodities to Egypt in ceramic jars, but results also reveal that vessels came from a range of different sources.

While elemental analysis helps place the issue of provenance beyond the realm of speculation and into the sphere of fact, sampling is not always possible for various reasons. In such cases, typological and stylistic parallels still have their place. This is largely the case for those vessels belonging to Type 2. For example, a Byblos origin is generally accepted for the Type 2f jug from Meydum [92] (Pl. 8) (Stager 1992: 38) and a large Type 2e jar [62] (Pl. 7), although parallels for the latter are known from Ras Shamra (de Contenson 1989: 320-1). The origin of Type 2a.ii [55] (Pl. 7) from the region of Cilicia, or northern Syria (Reisner and Smith 1955: 73) is likewise unquestioned. More problematic is a Type 2d jar of mid-5th Dynasty date [61] (Fig. 13), the origin for which should be sought in northern Syria or south eastern Turkey.

Other vessels probably originated closer to Egypt. Type 2b, represented by [56] from the tomb of Hetepheres resembles the Abydos Ware jugs of the ED

in both shape and fabric. Reisner noted that the fabric was ‘red with white inclusions’ (Reisner and Smith 1955: 64), thus linking this vessel to Porat and Adams’ Abydos Ware Group A Metallic Ware from northern Canaan/Lebanon (Porat and Adams 1996: 102). While examination of the fabric would be desirable, typological parallels and the ware description point to the probability that the jar arrived via well-established networks from northern Canaan/Lebanon, still in operation during the early 4th Dynasty.

Another vessel of Type 2a.i [54] (Fig. 12), has parallels in Canaan and hence may originate there, but such a conclusion must remain extremely tentative as not even Reisner and Smith could examine the pot (Reisner and Smith 1955: 73).

6.10. Fabric, ware types and the question of provenance

Study of fabric and ware is crucial to the question of provenance. Fabrics from almost every other period of Egypt’s ancient history have been the subject of sustained study over the last twenty-five years. Detailed classification schemes have been developed for many periods, particularly the second millennium BC (e.g. Bourriau and Nicholson 1991; Arnold and Bourriau 1993; Fuscaldo 2000).¹⁰⁶ Yet for the OK, detailed fabric studies are relatively rare. Much new material from excavations at Giza, Saqqara, Dendera and Edfu is still the subject of analysis and over time, the published results will undoubtedly rectify this deficit. The possibility thus remains that some vessels identified as imported may, on further study, turn out to be local copies.¹⁰⁷ Analysis on sherds from OK mastabas at Saqqara (Rzeuska 2003) confirms this took place in the later OK, as a measure to magically provide the valuable imported contents to the deceased who could not afford a real import or for whom supply was short at the time of their internment. Petrography on several late 6th Dynasty Combed Ware jars from Abusir (see [72], Barta pers. comm. 5/8/07) suggests that this practice may have been more widespread than previously thought, particularly in the late OK when supply from the Levant may have been constrained. Assessment of the scientific data will be required to settle the issue.

In this work, chemical analysis of many vessels has helped place visual identification of imported fabrics on a firmer footing; this has assisted with the further identification of vessels which were not subjected to petrography or chemical study. The following remarks on Combed Ware fabrics should be considered as an initial attempt at a classification scheme which requires further scientific analysis to place on a sounder basis.

¹⁰⁶ See also reports in *Cahiers de céramique égyptienne* 1-7.

¹⁰⁷ Petrography on a number of amphorae from the Naqada IIIA2 Abydos tomb U-j identified them as local Egyptian products rather than imports (Porat and Goren 2002). These results are matter of controversy and are not accepted by a number of scholars - e.g. Hartung 2002.

6.10.1. Combed Ware fabric types

Results from a petrographic study on Metallic Ware by Greenberg and Porat means that clearer distinctions can be made between north Canaanite fabrics and those from the Lebanese/Syrian coast and southern Canaan (1996: 11). The results are summarised as follows:

(a) Byblos and north Syrian coast fabric

Detailed work on the petrography of Byblos and northern Levantine Combed Ware is yet to be done. Greenberg and Porat note the similarity of combed, metallic Brittle Orange Ware from Amuq G-J with northern Canaan material, but on petrographic grounds this ware is a local variant (1996: 17-8).

(b) Northern Canaan and Central Levant

Clays from the Hatira Formation were carefully selected by potters to construct vessels (Kempinski and Niemeier 1991: 43, Greenberg and Porat 1996: 17). These iron rich clays could be fired at higher temperatures, thus allowing potters to make larger, thin-walled vessels with great tensile strength (Kempinski and Niemeier 1991: 43). Tempers used included minute shale fragments, fine and coarse (sand-sized) quartz, a small proportion of carbonates, siltstone, igneous rocks and oolites (Greenberg and Porat 1996: 13-6). PIXE-PIGME results noted below show that some vessels imported into Egypt were made in production centres which sourced Hatira Formation clays, which could be inland centres such as Tel Dan, or coastal stops on the way to Byblos, such as Sidon.¹⁰⁸

(c) Southern Canaan

Combed Ware jars from southern Canaan are characterised by a 'local calcareous, silty clay, with limestone and chalk temper', with surfaces often coated with a lime wash (Greenberg and Porat 1996: 17). Type sites with this fabric include the main EB III centres of Tell el-Hesi, Tel Halif, Tel Yarmuth, Megiddo and Tel Erani (see also Appendix II). However, similar, smaller formations to those in northern Canaan from which raw materials for Metallic Ware were gleaned are known in 'the Negev, Samaria, east of the Dead Sea and the eastern slopes of the Galilee hills' (Greenberg and Porat 1996: 16).

6.10.2. Ware groups

OK imported ceramics accessible for study come largely from Reisner's excavations at Giza (listed in Reisner and Smith 1955: 73-6). These are

¹⁰⁸ Combed Ware is known at Sidon but not published; the author has seen pictures of a vessel which was very similar in shape and ware to the jar from Matmar [95] which was made from clays derived from the Hatira Formation: see Collins 2006.

housed in the Museum of Fine Arts, Boston. Other jars from various excavations are located in Leipzig [36, 43], the Louvre [100], the British Museum [95] and Copenhagen [92].¹⁰⁹ Vessels from recent excavations as Saqqara and Abusir are also included.

The writer personally examined as many pots as possible during this research. Each accessible vessel was inspected, and where a section was visible, this was examined under a 10x hand lens. Some vessels were intact or so completely restored that the fabric section could not be seen. The conclusions below should be regarded as tentative observations only, as detailed petrography is required on the whole group to place any visual characteristics on a firmer footing. Moreover, the Ware Types represent only those vessels that could be examined by the writer.

Observations of vessels that could be examined reveal the presence of a number of different ware groups not apparent from the published excavation reports (*contra* Hennessy 1967: 84). The groups are broadly defined, with some variation present, particularly for Ware IV. These observations are noted below, and summarised against chronological data in Table 10.

(I) Fine Yellow-buff Ware (Reserve Slip Ware)

From region of Cilicia, southern Turkey. The fabric was fine yellow-buff, very homogenous, no visible inclusions.

- Boston MFA 20.1904 [55]

(II) Slipped Metallic Ware

Probably from Northern Canaan/Southern Lebanon. The one-handled vessels largely fell into this category, all dating to the 4th Dynasty. The fabric was hard and fired reddish brown (5YR 4/4) with conspicuous white calcareous inclusions <1mm, grog, some rounded quartz sand and angular black stone temper <1mm, very similar to IV but on a finer scale. The vessels all featured plastic rope decoration or a raised ridge at the base of the neck, and were carefully coated with a fine slip.

Variant 1 - yellow slip, with or without burnish

- Boston MFA 20.1899 [57]
- Reisner Reg. 13-10-68 [58]
- Boston MFA 20.1905 [59]

Variant 2 - red wash/slip and burnished

- Reisner Reg. 32-12-13 [60]
- Reisner Reg. 1711/4 and 1711/12 [56]

¹⁰⁹ Ceramics from Junker's excavations or the remaining vessels from Reisner's Giza work could not be found despite extensive enquiries; these pots are probably in Egypt.

(III) Dark Brown Ware

This was a distinctive ware in colour and surface finish, with no surface wash or slip. The finer fabric was a homogenous dark brown paste, with a grey-brown core streak, sporadic calcareous inclusions <1mm and fine sub-angular mineral inclusions <5mm. Fine and coarse varieties were present: the coarse version was the same, but with larger, angular inclusions.

Variant 1 - fine

- Boston MFA 19.1456 [19]
- Reisner No. 13-1-506 [38]

Variant 2 - coarse

- unnumbered "BG 437" (Ch. 3.3.1b)
- Saqqara TW2000:6 [85]

(IV) Combed Metallic Ware

From the Byblos region. Fine, very hard and dense clay matrix, fired a homogenous colour orange to red (10R 5/6) throughout section; plenty of fine rounded quartz sand <1mm, some black or brown mineral inclusions <5mm; sporadic large grog pieces <1mm; conspicuous calcareous inclusions <1-1.5mm in size.

Variant 1: pale yellow or buff slip or wash on the surface:

- Reisner Reg. 13-11-64 [5]
- Reisner Reg. 13-11-65 [6]
- Reisner Reg. 13-11-106 [7]
- Boston MFA 37.2729 [12]
- possibly Boston MFA 37.2725 [13]
- possibly Boston MFA 37.1319 [14]
- Reisner Reg. 13-10-29 [15]
- Boston MFA 47.1661 [25] (fine version, moderate firing)
- possibly Boston MFA 37.2724 [42]
- Boston MFA 20.1903 [33] (fine version, moderate firing)

Variant 2: uncoated, exterior fired red (10R 5/6)

- Reisner Reg. 13-11-107 [8]

Variant 3: uncoated, exterior fired pale yellow (2.5Y 7/3)

- Reisner Reg. 13-11-108 [9]
- Boston MFA 20.1889 [20]

(V) Coarse Combed Ware

A variant of (IV) but much coarser, but with large stone and calcareous inclusions visible on the exterior up to 5mm in size, surface fired weak red (10R 5/4) to reddish brown (5YR 5/4). No slip or wash. Combing pattern of horizontal and vertical lines.

- Boston MFA 47.1662 [39]

- British Museum EA 63698 [95]
- Abusir 105/HH/2001 [74]
- Abusir 2/HH-Sh 'C'/2002 [75]
- Abusir 86-12/HH/2000 [79]

(VI) Red Ware

These vessels formed a fairly homogeneous group. Unfortunately no sections were visible for fabric examination amongst the MFA group. The pots were large, fired red, to dark red to reddish brown (2.5YR 4/6-5YR 4/6), with light horizontal combing or no combing. Two vessels were very tall; others were shorter, but with a more rounded body. Where they were visible, the rims were well-modelled with a sharp overhang. Four vessels were still sealed, two with a plaster seal and two with a cap of Nile mud bearing seal impressions. They all came from late 6th Dynasty tombs dating to the reign of Pepy II. Some calcareous inclusions <2mm. were visible on the surface.

- Possibly Boston MFA 37.2723 [47]
- Boston MFA 13.2928, 13.2929, 13.2930, 13.2931, 13.2932 [49-53]
- Abusir 86-1/HH/2000 [73]
- Abusir 86-6/HH/2000 [76]
- Abusir 86-2/HH/2000 [77]
- Abusir 86-5/HH/2000 [78]
- Abusir 3/HH-Sh 'C'/2002 [80]

Although the above material comprises less than half the imported OK ceramics, it still represents a substantial sample from which to draw some provisional conclusions. Table 10 shows that several ware groups occur within relatively narrow chronological windows. For example, Wares I and II occur only in the 4th Dynasty. Ware V occurs only from the mid-5th to early 6th Dynasty, by which time III had disappeared. Ware VI is known only in the 6th Dynasty. Table 10 shows the broad geographical distribution of Ware VI, thus suggesting that Red Ware represents the final stage of Combed Ware production across the Levant as far north as Byblos.

The Giza ware group that most closely resembled Combed Wares from Byblos held in the AUB Museum was Ware IV. In particular PIXE-PIGME sample 2004 from Byblos (Appendix II), with a thick cream slip on the surface and a clay matrix peppered with large calcareous inclusions, was very similar in visual appearance to certain vessels from this ware group, specifically [5] and [6] of the Giza corpus.¹¹⁰ Vessel [5] clustered with Byblos sherds, revealing not only the close visual match but a chemical similarity as well (Table 10). Other combed ware sherds from Byblos closely resembled Ware IV.

¹¹⁰ Esse and Hopke reported the same observation (1986: 333).

6.11. Esse and Hopke's NAA study

In 1986, Esse and Hopke published the results of NAA on over 500 samples of EB pottery in the Near East (1986). The sample size included Metallic Wares, Combed Metallic and 'Standard' Ware samples, in addition to a substantial amount of Khirbet Kerak Ware and other regional fabrics. Twenty-one samples were taken from twenty imported Giza Combed Ware jars in Boston and compared to sherd collections from a wide variety of sites in Canaan and the northern Levant (Esse and Hopke 1986; Hopke pers. comm. 13/4/95).

This study is important because its conclusions have been used to construct a pattern of trade between Egypt and the eastern Mediterranean.¹¹¹ However, while important, it is deficient in several respects. Firstly, only three samples from Byblos were included, caused by the difficulty of obtaining samples from Lebanon at the time (Esse and Hopke 1986; Hopke pers. comm. 17/4/95). Secondly, detailed visual observations of the vessels were not published to assess differences in surface finish, size and other relevant properties against the elemental results.¹¹² Thirdly, the published results failed to identify each Boston jar against the sample numbers (Esse and Hopke 1986: fig. 31.3), thereby limiting the capacity for further analysis with the inclusion of chronological and ware/fabric observations. Fourthly and most importantly, the elemental and other technical data on which the cluster analysis was based was not published. The only data that could be found eventually was the list of sample numbers and corresponding Boston MFA numbers (Hopke pers. comm. 13/4/95). Even then, mistakes were noted in this numbering scheme (see below). Discovery of the sample numbers allowed the inclusion of Boston inventory numbers against the sample numbers in a revised cluster analysis (Table 9).

Seven broad chemical groupings are revealed, with five samples clustered closely around a sherd from Byblos, Bb BY72 (1986: 333). A number of other samples group with the Byblos sherd. Esse and Hopke noted the visual ware similarities between the Byblos sample and Boston MFA 20.1881 [18] from Giza, but this particular vessel was not on the list of sampled jars (Hopke pers. comm. 13/4/95). PIXE-PIGME analysis found that this vessel belonged to a group identified as coming from Northern Canaan/Lebanon and was chemically different to the Byblos group (see Appendix II). Esse and Hopke also noted the relationship of the Byblos cluster to Boston MFA 47.1661 [25], the contents of which were found by Lucas to be 'true resin from a coniferous tree' (Reisner and Smith 1955: 75; Esse and Hopke 1986: 334; Lucas and

¹¹¹ For example, see the extrapolation of these results by Kantor 1992: 20, and cited by Greenberg and Porat 1996: 18.

¹¹² Prof. L. Stager organised the sampling process with the Boston MFA (Hopke pers. comm.).

Harris 1989: 320). The jar from southern Turkey/Cilicia (Ware Group I [55]) sat apart from this group.

Three samples grouped loosely with samples from southern Canaan, but at least one of these is doubtful and may represent an error in the transmission of data to the writer. The reason for scepticism is that although the cluster analysis suggests that [50] and [51] have different origins, visually these vessels are strikingly similar in size, form and surface finish. Both even bear an incised collar at the base of the neck and feature a tooled rim with a slight overhang, which at first glance would suggest a similar point of origin. These factors make it less plausible that the vessels came from different regions, viz. Southern Canaan and Byblos respectively, as the NAA data suggests. However, without the chemical data to settle the matter, this cannot be proved.

Another group included two cream slip and burnished one-handled jugs [57-9] and a jar with the Pepy II seal [53]. Another Giza sample in this group, EP03, was incorrectly numbered and could not be identified against the Boston vessels. However, Esse and Hopke stated that five Boston one-handled jugs were sampled (1986: 333); as the inventory number of [58] is not noted elsewhere in their list, by a process of elimination, EP03 must be Reisner Reg. 13-11-68.¹¹³ Esse and Hopke noted that this 'cluster was internally cohesive but did not match the tested sherds from Syria-Palestine, other than in a general way' (1986: 333). The fact that these three one-handled jars cluster together, all with a similar surface finish and overall appearance (Ware Group II), may indicate a similar point of origin. Indeed, [57-9] (along with [53] and [38]) have a loose relationship to samples from Tabat el Hamman and Beth Yerah, suggesting an origin in northern Canaan/Lebanon. Precise parallels in the Levant for the singular combination of shape, fabric and surface finish of the one-handled vessels were very difficult to find; possibly these pots were manufactured especially for export.¹¹⁴

More loosely related to this group was the Combed Ware jar bearing a cylinder seal impression [42], but the relationship was distant and no real conclusions could be drawn about its provenance. Likewise, [19] showed elemental affinities with ED Abydos Wares of north Syrian origin.

Four samples [39, 47, 50, 52] clustered with samples from southern Canaan, specifically Tel Halif (Lahav), Tell Beit Mirsim, Tel Erani, Tell el-Hesi and Lachish. Despite chemical similarities, the jars had a variety of surface finishes. This may reflect the traditions of specific workshops, or in the case of [50] and [52], chronological differences (although with the caveat on the quality of the data noted above). Furthermore, Esse and Hopke

¹¹³ On the list of sample and corresponding MFA numbers supplied by Phil Hopke, only four one-handled jars were identified. Jar [60] could not be located in the MFA storeroom after several extensive searches.

¹¹⁴ Dreyer noted this same phenomenon in relation to the wine jars from tomb U-j: many could not be directly paralleled in Canaan, although the ware and fabric was from the region (1992: 297).

suggested that these jars originated in the region, but owing to what they perceived as a paucity of other evidence for Egyptian contact with Canaan, drew only tentative conclusions about possible EB III-IV Egyptian trade routes (1986: 334; *contra* Ben-Tor 1991: 5). However, they contended that these results indicated a 'continuing trade relationship between southern Palestine and Egypt...in addition to the famed Byblos connection' (1986: 334; Stager 1992: 41).

Aegyptiaca from southern Canaan shows that these results do not occur in a vacuum of other evidence. Interestingly, these four vessels date from the early to mid-5th Dynasty to the end of the 6th Dynasty, indicating that trade continued with Canaan until the latter years of the OK. Despite the military incursions of Weni under Pepy I, commodity acquisition with southern Canaan was not completely severed (*contra* Hennessy 1967: 88-9); indeed, perhaps the commercial activities between Egypt and the region were one of the reasons for it.

6.12. A new chemical study by PIXE-PIGME

Given that a large body of material had been sampled already by Esse and Hopke, repeating this exercise using the same material was considered futile. However, only 21 samples from Boston were taken for that study, with the remaining jars not tested at all (Hopke pers. comm. 13/4/95).¹¹⁵ Furthermore, vessels from other museum collections around the world were not tested. Therefore, it was decided to test the remaining vessels against a further sample of Levantine Combed Ware sherds. In particular, a larger corpus of material from Byblos was now available. A total of 25 samples of Levantine Combed Wares were obtained, and compared to 8 samples of Combed Ware from Egypt. PIXE-PIGME was used, a form of elemental analysis using proton-induced x-ray and gamma ray emission (Grave et al. 1996).

6.12.1. Results

The results (Appendix II) showed the presence of three general groups in the dataset. The plot of the first two components for the elements (Appendix II, Chart II) assists in comprehending these groups. In addition, the data should be read in conjunction with the petrographic observations made on Metallic Wares published by Greenberg and Porat (1996) and summarised above (see 6.10). The three clusters were as follows:

- Cluster A: comprises sherds from Byblos, and with them clustered five Giza samples [5-9]. All the vessels clustering with this group dated to the early 4th Dynasty.

¹¹⁵ This list was checked by identifying drill holes in the vessels, made to obtain powdered ceramic material for analysis.

- Cluster B: this cluster features more Fe-rich clays, observed in Metallic Wares of clays derived from the Hatira Formation in northern Israel and the central Levant (Greenberg and Porat 1996: 13-7). A feature of this cluster was a more mixed geographical spread of this clay, illustrating the broad trade patterns of the jars' contents.¹¹⁶ Of importance is the close clustering of three Egyptian samples, two from Giza [15, 18] and one from Matmar [95], with a sample from Beth Yerah, and with the group generally. This may not, however prove that the imported vessels in Egypt were sourced from Beth Yerah (although this is possible); the wide distribution pattern of this clay type means that the jars may have been obtained at any number of towns in northern Canaan and the coast involved in the same exchange mechanisms.
- Cluster C: this group, comprising sherds from Canaan, confirmed the petrographic observations of Greenberg and Porat (1996: 16-7), regarding the highly calcareous, potassium-rich and silty nature of clays from the region. No Combed Wares in the dataset matched samples from Cluster C.

Table 9 (Page 177):

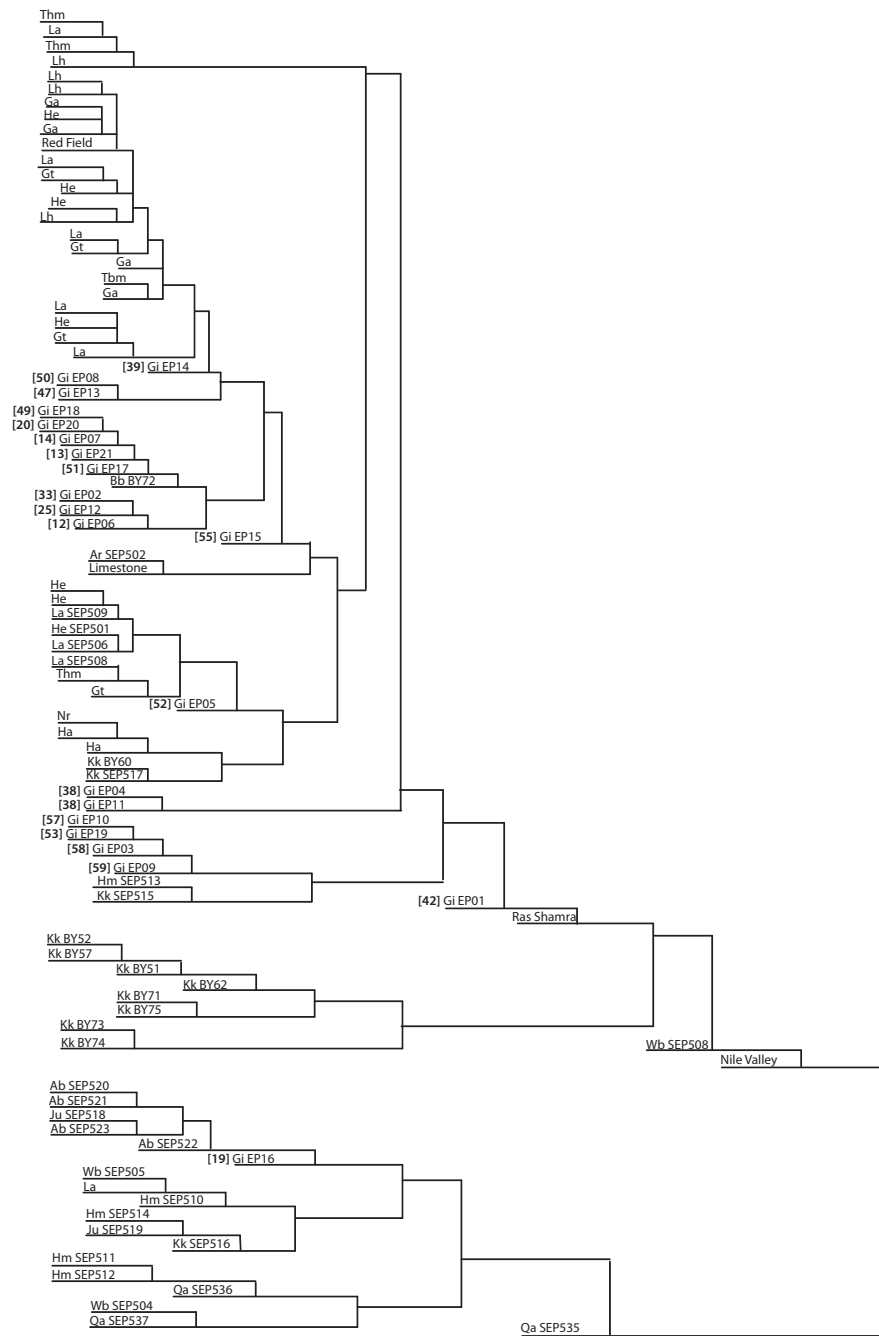
Revised hierarchical cluster analysis of Esse and Hopke's NAA study. Numbers alongside each Giza sample are MFA numbers supplied by P. Hopke matched with catalogue entries (after Esse and Hopke 1986)

Key: Ab=Abydos; Ar=Arad; Bb=Byblos; Ga=Gaza; Gi=Giza; Gt=Gath (Tel Erani); Ha=Hama; He=Tell el-Hesi; Hm=Tabat el Hammam; Ju=Tell Judeideh; Kk=Khirbet Kerak; La=Lachish; Lh=Lahav; Nr=Neirab; Qa=Qashish; Tbm= Tell Beit Mirsim; Wb=Wadi el Bir

Table 10 (Page 178):

Results of provenance studies by NAA and PIXE-PIGME for Old Kingdom imported ceramics

¹¹⁶ Dever and Richard noted the presence of northern combed Metallic Ware among the sherd collection from Stratum J at Tell Beit Mirsim (1977).



<i>Cat. No.</i>	<i>Museum Inv. No.</i>	<i>Shape Type</i>	<i>Ware</i>	<i>Prov.</i>	<i>Date</i>	<i>NAA No. & Prov.</i>	<i>PIXE-PIGME No. & Prov.</i>
[5]	Reisner Reg. 13-11-64	1	IV Var 1	Giza	early 4th Dynasty		2022 Group A Byblos
[6]	Reisner Reg. 13-11-65	1	IV Var 1	Giza	early 4th Dynasty		2026 Group A Byblos
[7]	Reisner Reg. 13-11-106	1	IV Var 1	Giza	early 4th Dynasty		2027 Group A Byblos
[8]	Reisner Reg. 13-11-107	1	IV Var 2	Giza	early 4th Dynasty		2028 Group A Byblos
[9]	Reisner Reg. 13-11-108	1	IV Var 3	Giza	early 4th Dynasty		2024 Group A Byblos
[12]	Boston MFA 37.2729	1	IV Var 1	Giza	early 4th Dynasty	EP06 Byblos	
[13]	Boston MFA 37.2725	1	IV Var 1?	Giza	early 4th Dynasty	EP21 Byblos	
[14]	Boston MFA 37.1319	1	IV Var 1	Giza	early 4th Dynasty	EP07 Byblos	
[15]	Reisner Reg. 13-10-29	1	IV Var 1	Giza	early 4th Dynasty		2023 Group B Nih Canaan/Leb
[55]	Boston MFA 20.1904	2a.ii	I	Giza	early 4th Dynasty	EP15 Nih Syria/SE Turkey	
[57]	Boston MFA 20.1899	2c.i	II	Giza	early 4th Dynasty	EP10 Syria/Palestine	
[58]	Reisner Reg. 13-10-68	2c.i	II	Giza	early 4th Dynasty	Probably EP03 Syria/Palestine	
[59]	Boston MFA 20.1905	2c.i	II	Giza	early 4th Dynasty	EP09 Syria/Palestine	
[18]	Boston MFA 20.1881	1	unknown	Giza	mid-late 4th Dynasty		2025 Group B Nih Canaan/Leb
[19]	Boston MFA 19.1456	1	III	Giza	4th Dynasty	EP16 Nih Syria/Amud(?)	
[20]	Boston MFA 20.1889	1	IV Var 3?	Giza	4th Dynasty	EP20 Byblos	
[25]	Boston MFA 47.1661	1	IV Var 1	Giza	mid to late 4th Dynasty	EP12 Byblos	
[33]	Boston MFA 20.1903	1	IV Var 1	Giza	mid-4th - to early 5th Dyn	EP02 Byblos	
[38]	Reisner Reg. 13-1-506	1	III	Giza	mid to late 5th Dynasty	EP04 & EP11 Syria/Palestine	
[39]	Boston MFA 47.1662	1	V	Giza	mid to late 5th Dynasty	EP14 Southern Canaan	
[42]	Boston MFA 37.2724	1	IV Var 1?	Giza	late 5th Dynasty	EP01 Syria/Palestine	
[95]	British Museum EA 63698	1	V	Matmar	mid 5th to early 6th Dynasty		2021 Group B Nih Canaan/Leb
[47]	Boston MFA 37.2723	1	VI?	Giza	6th Dynasty	EP13 Southern Canaan	
[49]	Boston MFA 13.2928	1	VI	Giza	6th Dynasty (Pepy II)	EP18 Byblos	
[50]	Boston MFA 13.2929	1	VI	Giza	6th Dynasty (Pepy II)	EP08 Southern Canaan	
[51]	Boston MFA 13.2930	1	VI	Giza	6th Dynasty (Pepy II)	EP17 Byblos	
[52]	Boston MFA 13.2931	1	VI	Giza	6th Dynasty (Pepy II)	EP05 Southern Canaan	
[53]	Boston MFA 13.2932	1	VI	Giza	6th Dynasty (Pepy II)	EP19 Syria/Palestine	

The clusters reveal that five vessels were made in Byblos or the region near that city, which is consistent with Esse and Hopke's NAA findings (Table 10).

According to the PIXE-PIGME results, the origin of three other jars should be located close to clays from the Hatira Formation, consistent with an origin in northern Israel/central Levant (Cluster B).¹¹⁷ It is possible that this grouping corresponds to Esse and Hopke's 'Syria/Palestine' cluster. Interestingly, the date range of the vessels tested by PIXE-PIGME spans the early 4th Dynasty [5] to possibly the early 6th Dynasty [95], suggesting that these networks, established during the ED, remained open for much of the OK.

6.13. Other chemical analyses

After exhaustive analysis of the jug from Dashur [90], Alexanian excluded Syria and Canaan/Jordan as possible points of origin both on chemical and typological grounds (Alexanian 1999: 110). Chemical analysis found the vessel contained high percentages of silica, Al_2O_3 , and Fe_2O_3 (Alexanian 1999: 108, 110). This profile is consistent with Cluster B clays from northern Israel/Lebanon (see above and also Appendix II, Chart II), and may therefore indicate an origin in this region.

The jar was almost identical typologically with [57] from Giza, a vessel that was tested by Esse and Hopke. They could not determine the origin of the Giza vessel with any more accuracy than simply 'Syria/Palestine' (1986: 333). However, the chemical results obtained by Pape (Alexanian 1999: 108) for the identical Dashur jar help secure an origin from northern Israel/central Levant for this group of one-handled jugs.

6.14. Conclusion

A detailed examination of foreign pottery imports in Egypt reveals important information about the geography and chronological scope of the commodities trade.

During the ED, the most common imported vessels were variations of Abydos Ware jugs containing coniferous resins and vegetable oils. Combed Wares appeared sporadically, but the main era of its *floruit* was the 4th to 6th Dynasties. The appearance of Combed Ware in the 4th Dynasty coincides with the disappearance of one-handled jugs linked to ED imports in Egypt; indeed, only one vessel, from the tomb of Hetepheres, can be directly linked with earlier jars. Other OK one-handled jugs differ considerably in shape and ware to earlier imports.

¹¹⁷ Porat and Adams' Group A imported ware is also a fabric from northern Canaan/central Levant (1996: 104).

The reasons for this change are not clear. As we have seen, the north-south maritime route to the Lebanon was well established at the beginning of the ED, hence the appearance of Combed Ware cannot be ascribed to any major shift in methods of transport at the beginning of the 4th Dynasty. A more likely explanation is that larger Combed Ware jars facilitated transport of greater quantities of the commodity, or indeed reflected a change in the commodity itself.

Imported ceramics are known almost exclusively from cemeteries. Only a handful of Combed Ware sherds have been identified in a settlement deposits (at Elephantine and Giza), and even one of these sherds was a secondary context. At Giza, the presence of Combed Ware sherds in the settlement is linked to the proximity of the cemetery and food preparations. This pattern of deposition points to the inherent value of the vessels themselves, both as exotic imported containers, in addition to useful storage jars that could be re-used for other things. Indeed, re-use of the vessels in Egypt is attested at Giza and Matmar, and in OK tomb reliefs.

The greatest number of imported vessels occurs in 4th Dynasty Giza tombs. Imports plateau during the 5th Dynasty and 6th Dynasty. No imported pottery is known with absolute certainty from the 3rd Dynasty, although this could represent an accident of discovery rather than the absence of any imports. The preponderance of imports in the 4th Dynasty, particularly the early part of this era, may reflect the greater ability of the highly organised, centralised Egyptian state to frequently fund and mount expensive long-distance trade missions to acquire luxury products.

After the 4th Dynasty, imported ceramics appear at sites beyond the royal burial grounds of Meydum and Giza, with material travelling south to Matmar and Edfu. The reasons for this changing chronological and geographical pattern are not clear. Fewer imports in the 6th Dynasty might reflect the declining ability of the OK state to mount foreign expeditions for anything but essential products (like copper) and diplomatic missions. It could also relate to problems of supply in the Levant. The greater diffusion of imported pottery beyond Giza in the late 5th and 6th Dynasties may likewise represent a reduction in state control over the fruits of foreign missions. In the later OK, officials beyond the capital were better able to access products previously available only to a select network of officials and family belonging to, or close to, the king's circle at Giza/Memphis.

Until recently, no imported wares, or sherds thereof, had been found at Abusir, suggesting that in the past, sherds were ignored or poorly recorded. Except for two examples, most imported vessels from Abusir are known at the end of the 6th Dynasty, and even these were re-sealed in Egypt, suggesting that they had been in circulation for some time. This preponderance of evidence in the 6th Dynasty is curious. It has been suggested that some of these late vessels are manufactured of Nile silt, making them local imitations of imported vessels. The same conclusion has been drawn regarding several

OK jars at Saqqara (see p. 80). Publication of the scientific data is required to fully debate these initial conclusions.

Regarding the foreign pottery illustrated on Sahure's Mortuary Temple, as to whether this can be regarded as evidence of the arrival of such pots during his reign is doubtful. Very few one-handled jars are known from the 5th Dynasty, and none with this narrow shape from the whole of the OK. Similar jars are, however, known from the corresponding period at Byblos. It is therefore possible that the scene depicts vessels that have not survived in the archaeological record; alternatively, the images may be copied from an earlier monument or function as a symbolic representation of the fact that such expeditions took place. Sahure is known to have engaged in foreign missions from other archaeological and textual sources, so the arrival of foreign ceramics (not necessarily of this shape) during his reign is possible. King's tombs, now robbed, would have been well-endowed with luxury goods.

Further work is required to identify the contents of imported pots. Limited residue analysis revealed that one vessel contained a fragrant coniferous resin, thus pointing to the possible contents of other pots. NAA confirmed that this particular vessel clustered most closely with a Combed Ware sherd from Byblos. This albeit slender link verifies later textual evidence that coniferous resins were a product of the Byblos region and one of the reasons for Egypt's connection with the city.

The Boston corpus reveals that at least six ware types are represented. Several chronological patterns in the production of certain ware types are noted, but there is no apparent regional pattern to suggest that manufacturing centres produced distinctive wares. The exceptions are Ware I, Reserved Slip Ware from northern Syria/southern Turkey, and Ware V, Coarse Combed Ware, which may have been limited to northern Canaan/Mt Hermon during the mid-5th to early 6th Dynasty/EB IIIB. Likewise Ware VI, Red Ware, probably represents the standard form of Combed Ware produced across much of the Levant (or at least production centres at Byblos and further south) at the end of the OK. No new information about the origin of the jars can be offered on the basis of potmarks or seals.

As supported by other archaeological evidence, Byblos or its environs was a major centre for the trade in the commodity contained inside the jars. NAA and PIXE-PIGME results show that many imports tested thus far cluster with Byblos samples. However, as noted above, this is not the only place from which commodities were sought. Whether this reflects direct or down-the-line trade cannot be ascertained.

NAA shows that several vessels were also imported from southern Canaan. They may have contained wine or vegetable oils such as olive oil. Other archaeological evidence pointing to OK contacts with the region helps put the NAA results on a sounder footing. Jars from southern Canaan appear in Egypt from the mid-5th Dynasty onwards, a finding which helps support

textual evidence of greater Egyptian involvement in the region during the latter part of the OK.

PIXE-PIGME results show that other vessels come from central Levant. Imports from the region were spread chronologically from the early 4th Dynasty to the later stages of the OK, and probably include a group of early OK one-handled jugs. While the commodity inside may have been olive oil, it is also possible that coniferous resins or admixtures of resins, oils and perfumes were also obtained, continuing the trade in this commodity via the network established during the ED. The jugs themselves have few if any direct parallels from the region, suggesting that the shape was made specifically for export.

All these results show that OK Egypt sourced products from a variety of regions. The primary link was with Byblos, but the old link with northern Israel and the Lebanese coast probably continued. From the mid-5th Dynasty, imports from southern Canaan are attested, with *aegyptiaca* from the region demonstrating an active relationship with Egypt probably linked to the copper trade. While the importance of these links paled with the establishment of a close relationship with timber-bearing region of the northern Levant during the ED, Egypt continued obtaining products via its existing networks in northern and southern Canaan, thus maintaining connections with her nearest neighbours throughout much of the OK.

7. THE EGYPTIAN—LEVANTINE COMMODITIES TRADE

7.1. Introduction

Egyptian texts and reliefs provide some information about the commodities exchanged between Egypt and its neighbours (Borchardt 1910-3: pl. 3; Helck 1971: 12-37; Grimm 1985; Redford 1986a and b). Chief among these are autobiographical inscriptions from 6th Dynasty Aswan tombs of the officials who led trading caravans, diplomatic missions and military expeditions to Nubia (*Urk.* I: 120-41). Although these missions were largely focused on the south, these texts highlight the sort of products obtained by such expeditions, the goods exchanged in return, and importantly the context of this exchange.

The nature of Egypt's exports still remains largely speculative (Ben-Tor 1982: 14). Some manufactured Egyptian goods of durable materials are easily identified in the Levant. Yet the possibility of 'invisible' exports such as foodstuffs and other organic materials has been raised repeatedly, but not satisfactorily resolved from an archaeological perspective (Helck 1971: 25-36; Ben-Tor 1986: 10; Andrassy 1991: 135; Ward 1991: 14).

The focus of this chapter is not philological discourse but the archaeological evidence for the Egyptian-Levantine commodities trade, to address the question of precisely what products were exchanged during the OK. While the nature of the commodities trade still requires more technical analysis (Ward 1991: 18; Knapp 1991: 23), a detailed understanding of the interregional and international commodities exchange can be obtained based on studies conducted to date.

7.2. Commodities sought by Egypt

7.2.1. Lapis lazuli

Lapis lazuli, or *ḥsbḏ* in Egypt (Helck 1971: 25 n. 1; Aston 1994: 72), is semi-precious stone from Badakhshan in north eastern Afghanistan that was highly prized throughout the Levant, first appearing in Egypt during the 4th millennium (Herrmann 1968; Lucas and Harris 1989: 399; Bavay 1997; Aston et al. 2000: 39).¹¹⁸ Other sources are known from the Pamir mountains of the old Soviet Union, and from Pakistan in the Chagai Hills (Wilkinson 1999: 164).

¹¹⁸ In later times, the term *Tjrrt* was used to describe the place from which the stone was obtained (Aston 1994: 72). As some 'lapis lazuli' in early Egypt may be a similar looking stone called lazulite, only scientific testing of objects can put actual provenance beyond doubt (Aston et al. 2000: 39). No such study on lapis lazuli objects from the OK has been conducted.

While lapis lazuli occurs in 1st Dynasty contexts after the reign of Djer, none is found in the 2nd and 3rd Dynasties (Crowfoot Payne 1968: 58; Herrmann 1968; Hendrickx and Bavay 2002: 66). This apparent sudden break may have been due to supply problems that also affected the lapis lazuli trade with Early Dynastic Mesopotamia (Astour 1995: 1405-6; Bavay 1997: 93-4). However, since the archaeology of the 2nd and 3rd Dynasties is so poorly understood, further excavation of elite tombs from the period is needed to confirm that this impression is well founded (Emery 1961: 91-104; Kantor 1992: 20; Hendrickx and Bavay 2002: 66).

The stone re-appears in the 4th Dynasty in both texts and archaeological deposits (Fig. 15, Pl. 9) (Crowfoot Payne 1968: 59; Herrmann 1968: 37; Roccati 1982: 38). During this period it was used for inlay, beads and amulets, but the overall quantity is not large. Lapis lazuli beads, amulets and inlay occur at Giza [63-4], Saqqara [87], Deshasha [94] (Fig. 15), Matmar [96], Mostagedda [94] and Qau el-Kebir [98] (Fig. 15), with the best-known finds coming from the Giza tomb of Queen Hetepheres [63] (Pl. 9). Silver bracelets featured lapis inlay and a blue-painted paste, filling gaps where the craftsman had insufficient stone. The small amount of lapis lazuli used here was evidently so highly prized that craftsmen made up their own paste to complete the symmetry of the design. This may indicate lapis lazuli curated from existing sources in Egypt rather than a resumption of the Mesopotamian trade. On the other hand, the high incidence of tomb robbing may explain the relative absence of lapis lazuli, even from elite contexts, although such stones would presumably end up in circulation once again. It is also possible that the stone was obtained abroad by Egypt and exchanged elsewhere in the Levant for other goods or as gift exchange. In any case, stylistically, lapis lazuli objects from OK contexts noted above evidently belong to the period, which suggests that quantities of raw stone were obtained at the time and worked in Egypt.

Archaeological evidence from northern Syria shows that the third millennium lapis lazuli trade from Badakhshan crossed the Iranian plateau before passing through Mari and Ebla (Pinnock 1984: 25-6; Pinnock 1988; Scandone Matthiae 1988: 70). At Ebla, 22kg of raw lapis lazuli was discovered in the administrative quarter of Palace G, dating to c. 2400-2250 BC (Pinnock 1985; Weiss 1985: 169). These blocks, apparently stored in bags, were of a standard size and weight (Weiss 1985: 169).¹¹⁹ Eblaite rulers kept the lapis lazuli trade as a royal prerogative and so played a major role in the stone's distribution to regional and more distant end-users; in addition, it was used by local elites (Pinnock 1988: 109; Weiss 1985: 169).

¹¹⁹ No such raw materials have been found in OK Egypt. However, blocks of raw lapis lazuli in addition to finished objects were found in the 12th Dynasty Tod Treasure (Bisson de la Roque 1937; Shaw and Nicholson 1995: 291; Warren 1995: 12-3).

Egyptian stone vessels at Ebla offer strong circumstantial evidence that Egypt sourced the material directly from local elites via royal trading missions (Pinnock 1988: 110; Scandone Matthiae 1988: 70; Ch. 8.2.4-5). Alternatively, the lapis lazuli trade may have been conducted between Ebla and Byblos (or Ugarit) with the latter acting as an 'independent and autonomous' entity (Pettinato 1991: 114, 119, 128-31); Egyptian stone vessels thus became items of direct or secondary exchange (Scandone Matthiae 1988: 71).

7.2.2. Copper and turquoise

Evidence for the extraction, smelting and use of copper and various alloys by Egypt is comprehensively summarised by Odgen (2000). Copper is derived from ores and, unlike gold, is not normally found in its metallic state, although examples of the latter are known (Lucas and Harris 1989: 199-201). Small amounts of copper appear during the early fourth millennium (Brunton and Caton-Thompson 1928: 27, 33), continuing into the ED, when larger quantities of the metal came to be fashioned into tools and vessels (e.g. Emery 1949: 20-57, pls 8-10; Emery 1954: pl. 31b, 32a). During the OK, copper was used for tools, full-size and miniature vessels (see for example Reisner 1931a: pl. 65d), piping (Borchardt 1910: 78), statues (Quibell and Green 1902: 46-7) and even boats (Sethe 1914: 235-6). Smelting and craft scenes show familiarity with metal working techniques (Weinstein 1974; Scheel 1985). Access to the metal was not restricted to elites, meaning that large quantities of copper ore were required for the mass production of many items.

By the 3rd Dynasty, evidence exists for the direct Egyptian exploitation of the Sinai resources at Wadi Maghara and nearby sites (Lucas and Harris 1989: 202-6; Odgen 2000: 149-50; Mumford 2006; see also Chs 2.3.9, 4.2). *Mfk3t*, or turquoise, was obtained in the south Sinai and used primarily for jewellery and inlay in the OK (Aston et al. 2000: 62). Indeed, from the 3rd Dynasty the phrase *htyw mfk3t* 'the turquoise terraces' is recorded (Gardiner et al. 1955: 1; Gardiner et al. 1952: pl.1.1-2; Spencer 1993: 101, fig. 77; Wilkinson 1999: 166-7), with the term *mfk3t* or 'turquoise' appearing on the Sinai rock inscription of Sanakte (Spencer 1993: 101, fig. 77). Numerous OK inscriptions at Wadi Maghara and to a lesser extent at Wadi Kharig confirm royal expeditions up to the reign of Pepy II (Ch. 4.2.2), yet only turquoise is ever mentioned as a product of the region (*Urk.* I: 246.3; Fischer 1959: 265; Muhly 1973: 217).

Despite the paucity of textual data, a substantial amount of direct and circumstantial archaeological evidence points to the importance of the Sinai as an Egyptian source of copper. For example, the fort at Tell Ras Budran on the west coast of the Sinai (Fig. 6) reveals a highly organised state-sponsored expeditionary effort involving anchorages and supply stations to support 6th Dynasty mining activities in the hinterland (Mumford and Parcak 2003; Mumford 2006). A further OK camp on the western side of the Red Sea, 'Ayn

Sukhna, may have served as an expeditionary way-station between Memphis/Heliopolis and the Sinai coast; discoveries there include material bearing the cartouches of Khafre and Niuserre (Mumford 2006: 56). Traces of OK settlements at Wadi Maghara and Site 702B show that copper smelting, refining and ingot production did take place there (Petrie 1906: 39, 51-2; Aston et al. 2000: 62; Ogden 2000: 149, 152). Copper nodules and turquoise chips were also found at Tell Ras Budran (Mumford 2006: 33, 37). Moreover, the titles of two 5th Dynasty officials, a 'scribe of copper' and a 'controller of copper' at Wadi Maghara (Gardiner et al. 1952: 61, pl. 7.13), point to copper ore acquisition. Although the evidence is not voluminous, it is 'churlish to suggest that these expeditions did not seek copper in addition to whatever other raw materials could be obtained from the region' (Lucas and Harris 1989: 204-5 and references; see also Muhly 1973: 217).¹²⁰ Possibly both copper and malachite were sought, in addition to turquoise (Aston et al. 2000: 62).

Alternatively, Kaczmarczyk and Hedges believed on the basis of chemical analysis that an Eastern Desert origin for much OK copper is equally plausible (1983: 232-5). Extensive copper ore deposits are known from the region (Ogden 2000: 150). Evidence of early OK copper mining and processing installations have been found in the Eastern Desert near Gebel Zeit (Tawab et al. 1990: 361) and also 'Ayn Sukhna (Abd el-Raziq et al. 2004: 12-4). Ore was also obtained from Upper Nubia in the 'gold bearing region of Kush' and smelted at Buhen (Muhly 1973: 219; el Gayar and Jones 1989; Ogden 2000: 150-1).


The other potential source for OK copper was southern Canaan. From the Chalcolithic Period, copper was mined in the Wadi Feinan (Hauptmann and Weisgerber 1987: 434) and possibly Timna (Rothenberg et al. 1978 and references). The closer proximity of the Feinan to major north-south and east-west trade routes means that Timna was probably too distant to participate in the EBA copper trade network (Hauptmann et al. 1999: 14).

Moreover, recent work shows that the Wadi Feinan was *the* major regional producer of EBA copper, particularly in the EB III.¹²¹ Slag heaps from early smelting activity indicates that this was the biggest copper producing area of the whole southeastern Mediterranean (Hauptmann and Weisgerber 1987: 434), with Khirbet Hamra Ifdan the largest site in this respect (Levy et al.

¹²⁰ Without any evidence, Ward suggests that surplus copper obtained by Egypt was on-sold at Byblos to acquire other products (Ward 1963: 56).

¹²¹ Copper production increased towards the end of the EB III and into the EB IV, a period that witnessed the decline of the large urban centers in the Levant and the eventual collapse of the OK (Adams 1999: 237-42). Haiman points out that Egypt is the only likely candidate for the consumption of such large quantities (1996). Thus despite the changes which occurred in the region in the EB IV, the Egyptian demand for copper ore was still strong and the means of production and exchange in the southern Levant was still sufficiently organised to meet it.

2000). During the EB III-IV, Egyptian emissaries or Asiatic trading parties may have travelled a well-worn overland route heading inland from the Gaza region and southeast across the northern Negev to reach the Feinan (Figs 47-8) (MacDonald 2006: 85-6, fig. 5.5). Here, a network of EB IV settlements have been identified which may have provided the logistical support for these missions in the EB IV at least (Haiman 1996). This route continued over the northern Sinai, where EB IV settlements have also been discovered [108], leading Haiman to plausibly suggest that the EB IV Feinan copper exchange network with Egypt was in Asiatic hands (1996: 24).

‘Copper’ imports from elsewhere in Asia are attested during the OK. The 5th Dynasty Abu Sir Papyrus from the funerary temple of Neferirkare mentions  *sttj* cult objects, usually translated as ‘Asiatic copper’ (Fig. 38) (Posener-Kriéger and de Cenival 1968: 6, pl. 13; Posener-Kriéger 1969; Kaczmarczyk and Hedges 1983: 238; Redford 1986a: 138).¹²² Several other OK references to *sttj* are also known (Posener-Kriéger 1969: 423).

The precise identity of this material is not known, and several explanations have been proposed. Firstly, it is possible that the term refers to copper from the Sinai, based on the appearance of the word *Stt* in Sahure’s Wadi Kharig graffito [107] (Fig. 17). However, given that by the 5th Dynasty copper was so common that it was used for piping at Sahure’s mortuary complex (Borchardt 1910: 78), possibly some sort of more exotic copper-based product is referred to. Posener-Kriéger noted that the placement of *sttj* in the Abu Sir Papyrus indicates a metal of sufficient value and rarity to rank alongside silver, gold and electrum for the manufacture of royal cult vessels (1969: 425-6). This could be a form of imported bronze (Posener-Kriéger 1969: 425 n. 33), a copper alloy containing around 10% tin, which was not found in Egypt until at least the Middle Kingdom (Kaczmarczyk and Hedges 1983: 239; Lucas and Harris 1989: 219-20; Ogden 2000: 153-4). However, as the archaeological contexts of the few OK ‘bronze’ finds are highly suspect, their dates should be regarded with scepticism and cannot be used as evidence of deliberate local production (Lucas and Harris 1989: 219).¹²³ True bronze is found in the third millennium from Tell Judeideh in the Amuq and northwest Anatolia (Muhly 1995: 1506), and was possibly exported to Egypt, perhaps via the Ugarit or Byblos connection.

Alternatively, *sttj* may refer to imported tin from Anatolia. However, tin is found in the Eastern Desert and may have been worked anciently, although no evidence for this has yet been found (Kaczmarczyk and Hedges 1983: 229;

¹²² The issue of whether *Stt* should be read as ‘Asia’, or a region closer to Egypt, such as the Sinai, has been canvassed in Ch. 2.3.2. However, by the 5th and 6th Dynasties *Stt* probably had a wider geographical meaning (Redford 1986a: 139; Ward 1991: 12).

¹²³ A ewer and basin from the 2nd Dynasty tomb of Khasekhemwy had tin levels of 7-9% and therefore could be regarded as bronze, albeit of potentially accidental production (Ogden 2000: 153).

Ogden 2000: 171). No tin artefacts are attested in Egypt before the New Kingdom, although it was used as a copper alloy during the Middle Kingdom (Ogden 2000: 171).

A further possibility is that the term refers to copper from the Wadi Feinan. Perhaps because Feinan copper was obtained beyond Egypt's borders, *sttj* from this source was regarded as more exotic. A rationale for the appearance of Egyptian objects in EB III deposits at sites close by Feinan, especially Bab edh-Dhra and Numeira, is therefore established (Ch. 4.3-4). At Numeira, copper slag fragments from occupation debris points to nearby metalworking (Rast and Schaub 1980: 44). Following the demise of Arad, these towns may have had a role in controlling the EB III-IV trade in Feinan copper. Even if *sttj* does not refer to copper from the Feinan, the presence of Egypt artefacts at sites in close proximity to the mines suggests Egyptian exchange of copper ore or ingots during the OK.

On the balance of current evidence, *sttj* should be identified as imported copper from the Feinan, or imported bronze from northern Syria. Much scientific work remains to be done on the composition of OK Egyptian copper and the nature of copper working technologies (see Ogden 2000: 149-61). Identifying the origin of ores used would confirm suspicions that at least some copper was obtained in the Levant, probably in the Feinan, in addition to the Sinai, the Eastern Desert and Nubia.

7.2.3. Silver

Placed alongside gold in OK inventory lists, *ḥd* (silver) was regarded as a precious metal (Posener-Kriéger 1969: 425-6; Gale and Stos-Gale 1981: 103). In Egypt, silver was locally fashioned into cult vessels and other objects (Hassan 1938: pl. 96; Reisner and Smith 1955: 44-5; Posener-Kriéger and de Cenival 1968: pl. 13; Posener-Kriéger 1969: 419-20; Weinstein 1974), jewellery (Reisner and Smith 1955: 43-5, pl. 38a) and beads (Brunton 1928: 15, pls 99.D6, 101.H28.690). Like gold, as a precious metal silver was probably robbed from many elite tombs.

Silver first appears in the Predynastic era (Prag 1978: 38; Ogden 2000: 170), but little is known of its composition and metalworking technology owing to the lack of analytical studies (but see Weinstein 1974; Gale and Stos-Gale 1981). Prag suggested that silver was imported from Byblos in the fourth millennium (1986: 72).¹²⁴ She also regards the chronological distribution of the metal in Egypt as similar to that of lapis lazuli, that is, with a break in supply during the ED (Prag 1978: 41).

¹²⁴ A lead model hawk from Nagada II Grave 721 at Naqada had a high silver content indicating an origin beyond Egypt. This shows that exotic metals were sourced abroad from an early time (Gale and Stos-Gale 1981: 115).

However, the balance of evidence indicates that OK silver was derived from local sources. Indeed, Lucas was of the opinion that ‘none of the Egyptian silver is of the nature or purity of that smelted from ore’ (Lucas and Harris 1989: 248). Egypt today has no native silver or silver ore resources, but local nickel and lead ores have a small silver content, as does Egyptian gold and electrum, which are both high in silver (Gale and Stos-Gale 1981: 106-7).¹²⁵ Much Egyptian gold has a silver content as high as 24% (Lucas and Harris 1989: 245-6; Ogden 2000: 170-1). Indeed, the probability that surviving OK silver was obtained from local gold has been established by limited lead isotope analysis (Gale and Stos-Gale 1981: 113).¹²⁶

For example, silver from the famous tomb of Hetepheres was used as foil and to make a variety of objects like bracelets [63] (Pl. 9) and a boat (Reisner and Smith 1955: 46).¹²⁷ The famous inlaid bracelets had ‘the appearance of solidity but...[were] only [hollow] shells of very thin metal’ peppered with ‘yellow patches ... due to the unequal distribution of the gold present’ (Lucas and Harris 1989: 246, 248). The metal contained 90.1% silver, 8.9% gold and 1.0% copper (Reisner and Smith 1955: 44). Such a combination of metals as well as visible yellow patches point to silver derived from silver-rich gold deposits, thus matching the profile of indigenous gold sources (Lucas and Harris 1989: 248).

This does not deny the possibility that silver was imported during the OK, as it had been during earlier and later periods (Prag 1978: 39; Gale and Stos-Gale 1981: 104; Marfoe 1987: 27; Lucas and Harris 1989: 249). The largest regional source of the metal was Anatolia (Prag 1978: 40), which supplied trade routes directly or down-the-line all over the Near East during the third millennium (Pettinato 1991: 113). Other sources were known from the Amanus Range north of Byblos, (Prag 1978: 40), sources from which fourth millennium silver in Egypt may have been obtained (Scandone Matthaie 1994: 37; Wilkinson 1999: 163). The palace economy of Ebla relied heavily on silver: the Ebla texts mention large quantities of silver being traded, received as tribute and stored as wealth (Pettinato 1991: 104-8, 244-52; MEE 1, no. 1724, 700, 1279, 1507). The proximity of this city to the silver mines in Anatolia placed Ebla at a decided advantage in regional trade (Pettinato 1991: 66-9; Pinnock 1984: 24-5). The northern silver trade may account for the presence of Egyptian stone vessels with royal names at Ebla, exchanged for this precious metal, in addition to lapis lazuli (Ch. 8.2.5).

¹²⁵ Lucas suggests that Egypt may have had small local silver deposits that are now exhausted (Lucas and Harris 1989: 248).

¹²⁶ Gale and Stos-Gale also suggest that the earliest term for silver, *nbw ḥd*, ‘white gold’ shows that the Egyptians ‘regarded gold and silver as two forms of the same mineral, distinguished by their colour’ (1981: 113).

¹²⁷ See also the wooden cylinder seal with the name of Khafre, covered with silver foil (Reisner 1931a: 104, 234, Pl. 64.1).

Such a suggestion runs into the problem of an absence of unambiguously imported silver in OK contexts. It could be that the Egyptians sought silver from Ebla via Byblos not only for production of objects back home, but more to facilitate other international trading activities. Scholars have suggested that in the later third millennium, silver had become the ‘standard of reference and means of payment’ (Marfoe 1987: 29-30; Evans 1991: 367 and references; Pettinato 1991: 86-7), thus the metal may have been required as a ‘currency’ for other transactions.¹²⁸

7.2.4. Animals

In Egypt, livestock provided food and other useful products as well as comprising units of wealth in their own right. Elsewhere in the Levant, the Ebla texts also reveal the importance of livestock, particularly cattle and sheep, as a store of wealth and commodity used in trade and diplomatic exchanges (Archi 1987: 121-2; Pettinato 1991: 111).

The 6th Dynasty autobiographical inscriptions describing trade and diplomatic missions to Nubia refer to local chiefs giving gifts of live cattle and goats (*Urk.* I: 127.8; *Urk.* I: 134.6-7). Livestock came to Egypt not only as gifts but also as war booty and tribute; the Palermo Stone refers to ‘200,000 cattle in a year’ coming from Sneferu’s campaign in ‘Nehsyw’ (Nubia), and to 13,100 cattle from Libya (*Urk.* IV: 237.13-4).

Other animals of a more exotic kind are known in the OK. Bears are depicted in the famous relief from the north side of the court of the Mortuary Temple of Sahure at Abusir (Berlin Ägyptische Museum Inv. 21828; Borchardt 1910-3: pl. 3, Priebe 1991: 38, no. 24). The fragmentary scene reconstructed as ‘Syrian booty’ shows five bears on two registers, although more were doubtless originally shown (Fig. 39). The scene depicts brown painted animals collared and tied down, alongside twelve red-painted one-handled jars. All of these animals are portrayed in a highly naturalistic fashion, suggesting that the artist had actually seen bears personally (Houlihan 1996: 195).¹²⁹ Alternatively, the scene may have been copied from an earlier royal monument, and may therefore not depict an actual event but rather a genre scene of the era designed to re-inforce the royal myth (see Hawass 1995: 231-2).

Identified as *Ursus arctos syriacus*, the species came from the forests and mountain country of Lebanon (Priebe 1991: 38), Syria and the Caucasus. The presence of a bear bone at Tel Yarmuth also indicates that bears were present

¹²⁸ Again, the later Tod Treasure shows that silver ingots, in addition to finished objects, were exchanged across long distances (Shaw and Nicholson 1995: 291, photo).

¹²⁹ Another depiction of a bear was reported on the Unas Causeway, but these could not be found by the writer on examination of the publication and extant blocks on the Causeway (Hassan 1955: 138; Smith 1965: 8).

in the southern Levant either in the wild or as imports (Davis n.d.).¹³⁰ The desire of kings to acquire bears was not confined to Egypt: the Ebla texts mention 14 bears given as part of a dowry (Archi 1987: 122). On this basis, the bears in Sahure's relief may have been gifts to the Egyptian king (Houlihan 1996: 195).

Sahure's relief also depicts the lower legs and forequarters of two other animals in the lower register (Fig. 39). Like the bears they are tied down, except that the loose ends of rope hang in a more decorative fashion. This recalls the collar of the hunting dogs from scenes elsewhere in Sahure's funerary complex (compare Borchardt 1910-3: pl. 17). The animals are also very fine boned, too fine for lions, and have the paws and legs of canines or felines (compare Borchardt 1910-3: pl. 43). If the fragments on which these animals appear also come from the Syrian booty scene, as Borchardt indicates, then exotic dogs, wolves or even the Persian leopard may represent further products of the Levant brought to Egypt.

These scenes belong to a long tradition of elite acquisition involving the importation of exotic animals and animal products. Kings enjoyed a menagerie for which fauna was needed to be constantly supplied by trade, tribute or as political gifts (Houlihan 1996: 197; Foster 1999: 48). They added to the prestige of the king: through the 'possession of rare animals... Egyptian kings symbolically displayed their personal, political and militaristic mastery over foreign countries through the domination of their faunas' (Houlihan 1996: 197; see also Hawass 1995: 249). The tradition of such animal imports continued under later kings, shown by the arrival of unusual fauna depicted in the Theban tomb of Rekhmire from the reign of Tuthmosis III (Davies 1943: pl. 17, 19-20).

7.2.5. Olive oil

The question of whether Egypt imported olive oil from the Levant prior to the New Kingdom is far from settled archaeologically (Ben-Tor 1982: 12; Ward 1991: 15; Serpico and White 2000: 398-9). Both Ben-Tor (1986) and Stager (1985) emphasise the importance of the wine and olive oil trade with Egypt during the EBA. Yet while the recent discoveries at Abydos are helping to clarify the nature of the liquid commodities trade in the EB IB (see Ch. 2.2.2), EB III/OK archaeological evidence for this exchange, while tantalising, is incomplete and circumstantial.

¹³⁰ My thanks to Mr Simon Davis for permission to quote from his manuscript.

No evidence exists for olive cultivation in Egypt during the third millennium (Lucas and Harris 1989: 333-5; Serpico and White 2000: 398-9).¹³¹ Moreover, there is no evidence for the importation of olive oil; even textual evidence on the issue is ambiguous with debate continuing over the meaning of the word *b3k* (for a summary see Helck 1971: 28 n. 26; Stager 1985: 174; Ward 1991: 15; Serpico and White 2000: 399).¹³² Analyses on Combed Ware jars have not identified olive oil residues specifically (Hassan 1936: 147; Reisner and Smith 1955: 75). However, traces of both vegetable oils and animal fats were noted in 1st Dynasty Abydos Ware jugs (Serpico and White 1996: 138-9).

Nevertheless, archaeological evidence from the Levant points to olive oil as an important product of the region from Chalcolithic times (Stager 1985; Liphshitz et al. 1991; Finkelstein and Gophna 1993: 12-3; Liphshitz et al. 1996; Gophna and Liphshitz 1996).¹³³ A major expansion in olive oil production occurred during the EB I in the hill country of Canaan, to which Finkelstein and Gophna link the emergence of stratified, urban communities based on organised and large-scale horticultural activities (1993: 14). They tentatively point to Egypt's demand for wine and olive oil in the EB IB as another possible impetus for this agrarian transformation (1993: 14).¹³⁴ At Tel Erani, 'more than 50% of the wood was from olive, indicating the existence of olive orchards and most probably olive oil production' (Gophna and Liphshitz 1996: 151). EB IA evidence of contact with Egypt near coastal Ashkelon, combined with significant evidence of nearby olive oil production, provides further circumstantial evidence of olive oil exports to Egypt (Gophna and Liphshitz 1996).

Olive oil production areas located in the hill country of Canaan include the Shephelah, Samaria and Galilee, Beth Yerah, Tell es-Sa'idiyeh, Tell Ta'anach and possibly at EB III Tel Yarmuth (Tubb and Dorrell 1993: 62-6; de Miroschedji 1999: 8-9). Other possible olive oil production centres include Beth Shean, Tell el-Hesi, Megiddo, Tel Qishyon, Hazor, Tell Beit Mirsim, Lachish, Byblos and Qatna where large Combed Ware vats, identified with the presence of this industry, have been found (Esse 1991: 119-24). At Ras Shamra, Combed Ware jars were found associated with an olive oil press (Esse 1991: 121-4). Esse, following Fargo, described this as evidence for olive oil in some of the Combed Ware jars in Egypt (Reisner and Smith 1955: 75;

¹³¹ The olive tree is not attested in Egypt until the Middle Kingdom, where evidence has been found amongst plant remains at Memphis (Krauss 1999: 294).

¹³² However, the basis upon which Ward states that 'olive oil was used very little in Egypt [during the EB]' is unknown (1991: 15).

¹³³ The possibility of olive oil imports at Maadi has been suggested but never substantiated (Finkelstein and Gophna 1993: 13).

¹³⁴ The significant quantity of imported wine jars in tomb U-j indicates that Levantine communities were capable of manufacturing and distributing surplus commodities on a large scale as early as the EB IB.

Esse 1991: 122). The method of sealing of such jars with an impermeable plaster or mud stopper certainly points to a liquid content (Reisner and Smith 1955: 75; see also plaster stoppers on [47, 49, 52], Pls 5-6).

NAA results on Combed Ware jars from Giza revealed that four vessels clustered with sherds from southern Canaan (Esse and Hopke 1986: 337; see Ch. 6). This again may point to olive oil or wine exports to Egypt from the region during the EB III. However, although residue analysis has been limited, olive oil has not been identified in any testing (Hassan 1936: 145-6; Reisner and Smith 1955: 75; Lucas and Harris 1989: 320). Of course, any such residue analysis is complicated by the fact that storage jars were sometimes re-used, as [53] attests. This practice is also known in other periods, thus residues might represent the 'last use' of a vessel rather than the original contents (Knapp 1991: 24; Serpico and White 1996: 136, 139). Indeed, there is no guarantee that 'virgin' jars were used to transport commodities to Egypt in the first place.

7.2.6. Wine

No evidence exists which can confirm wine as an import from Canaan during the OK. Stager regarded wine as a commodity imported in ceramic jars (Stager 1985: 175), but this has not been scientifically verified.

However, botanical remains from imported Canaanite jars in tomb U-j at Abydos show that wine was imported from southern Canaan on a large scale as early as Naqada IIIA2 (Dreyer et al. 1998: 92; Finkelstein and Gophna 1993: 12-5; Hartung 2001; 2002). The remains of figs were also found in some of these vessels (Hartung 2002: 437). By the 1st Dynasty, Egypt was cultivating its own vineyards (Kaplony 1963: 137, fig. 213; McGovern et al. 1997; Murray 2000: 576), with 'actual (domesticated) grape pips ... appear[ing] for the first time in the royal tombs of late Dynasty 0 and 1 at Abydos' (van den Brink and Braun 2002: 169). Reliefs and inscriptions confirm that Egyptian viticulture continued well into the OK (for example Moussa and Altenmüller 1977: 110, figs 15-6; Murray et al. 2000: 579), which may have affected demand for imported wines (Marfoe 1987: 27).

Like olive oil, no residue analysis has been conducted to confirm the possibility of EB III wine imports (*contra* Andrassy 1991:138). However, Weni's inscription mentions the vineyards of the ʿ3mw (*Urk.* I: 103.14), attesting to continued grape cultivation in the hill country of Samaria and the Galilee during the late EB III (Finkelstein and Gophna 1993: 11-4). Thus perhaps only special vintages were imported, as was the case during the New Kingdom (Bavay et al. 2000a). Further residue analysis is needed to confirm this possibility for the OK.

7.2.7. Coniferous timbers

Large stands of coniferous trees, now much denuded, once covered the hills of the Lebanon and many other parts of the Levant, including south eastern and south western Turkey, Cyprus, Crete, northern Israel and Jordan, the Aegean, the Sinai and Syria (Meiggs 1984: 41-3; Germer 1985: 6-8; Marfoe 1987; Serpico 2000: 432). Highly suitable for shipbuilding, construction and the manufacture of objects, coniferous wood was prized in ancient times for both its aesthetic and durable qualities, and as a result, was extensively harvested (Meiggs 1984; Davies 1995: 148).

In Egypt, these timbers were used for shipbuilding, small objects, coffins, doors and furniture (*Urk.* IV: 236-7; Serpico 2000: 431). One species most associated with OK Egyptian trading activity is cedar (*Cedrus libani*). Cedar belongs to the family of coniferous trees that also includes ‘cypresses, firs, junipers, larches, pines, spruces and yews’ which are not native to Egypt (Lucas and Harris 1989: 319). Cedar is found in the cooler, wetter climate of the Levant, from the coastal region up to elevations of 2,700m in the Antilebanon, eastern and southwestern Turkey, and Cyprus (Meiggs 1984: 39-87; Gale et al. 2000: 348-52; Serpico 2000: 432).

The issue of third millennium cedar wood imports has been a complex archaeological and lexicographical problem (see Helck 1971: 26-8; Germer 1986; Nibbi 1990; 1994; 1996 with references). Such uncertainty is not a modern phenomenon; the Roman historian Pliny was himself confused about coniferous timber identification (Meiggs 1984: 23-6). Lucas also pointed to the confusion in terminology, suggesting that the term ʕš-wood, traditionally translated as ‘cedar’, was often used to describe junipers and other members of the coniferous family (Lucas and Harris 1989: 432-3; Ward 1991: 13 and references; Gale et al. 2000: 349).

Translation of ʕš-wood as ‘cedar’ goes back to the work of Erman (1900) and Sethe (1906; 1908-9; for a summary of the debate, see Meiggs 1984: 405-9). However, Loret argued that ʕš-wood was more likely to be fir or pine, because in Egyptian art a yellowish colour was used to depict this type of timber, whereas a reddish brown colour was used for cedar, which should be identified as *mrw*-wood in the texts (1916: 33-51; Helck 1971: 25-7; Nibbi 1981: 14-27; 1994: 47; 1996).¹³⁵ The term *mrw*-wood is also known from the ED and later (Petrie 1901: pl. 10.2). *Mrw*-wood may refer to cedar (Montet 1962: 86; Andrassy 1991: 133; Nibbi 1994: 47; Helck 1994: 105), but this cannot be confirmed (Ward 1991: 14).

¹³⁵ Nibbi takes this argument one step further by attempting to reduce the importance of the timber trade and therefore the role of Byblos in Egypto-Levantine relations in the third millennium (see Nibbi 1994; 1996). Few scholars support her contention that *kbn* was not Byblos, and that Egyptian coniferous timber-getting was focused on local resources.

Examining the relative frequencies of timber use in Dynastic Egypt, Davies highlighted the greater use of cedar as opposed to other imported wood types, suggesting that on balance ‘š-wood’ thus probably referred to the more popular cedar wood rather than other coniferous timbers (Meiggs 1984: 405-9, Davies 1995: 149; *contra* Helck 1994). Other scholars prefer to regard ‘š-wood’ as a generic term for resin-bearing coniferous trees like cedar, pine, fir, juniper, cypress or yew, and that the precise type of timber being imported at any one time was determined by demand and availability (Andrassy 1991: 133; Ward 1991: 13 and references; Helck 1994). That the term did, however, refer at least to cedar in the late OK is supported by the coffin of Idu, ‘Overseer of the House of ‘š-wood’ from Giza [67] (Pl. 9) whose coffin was made of *cedrus libani*.

Past unscientific study of timber has made the identification of possible timber imports a vexed issue (Western and McLeod 1995: 77-8).¹³⁶ More recently, science has come to the aid of the archaeologist, identifying wood species and thus helping clear up misunderstandings that have crept into the literature (e.g. Grosser et al. 1992: 251-61).

OK archaeological and textual evidence for coniferous wood acquisition continues the pattern established in the ED. Although the corpus in Chapter 3 cannot be considered exhaustive, it does give some indication of the species imported and the uses to which such timbers were put. The 4th Dynasty in particular seems to have witnessed significant quantities of coniferous wood imports. Cedar for construction is noted in Sneferu’s Bent Pyramid [91]. The famous riverboat of Khufu was also made of cedar, with other components made from various imported timbers, such as juniper [65]. The size and quantity of the planks required for this boat (some 50 tons of cedar wood, including some planks 23m long) presupposes timber-getting expeditions which involved the organisation of ships and resources on a considerable scale (Marcus 2002: 408). The large quantities arriving in Egypt during this time is also indicated on the Palermo Stone, which describes Sneferu’s ‘40 ships filled with ‘š-wood’, and a further reference to a 100-cubit ship and palace doors, also made of ‘š-wood’ (*Urk.* IV: 237.3).¹³⁷ Also mentioned is Sneferu’s ‘Year of cutting red *mrw*-wood for a hundred cubit ship “The Two Lands Worship”, and sixty 16-ribbed royal ships’ (*Urk.* IV: 236.9-8).¹³⁸

Much work remains to be done to understand the full extent of coniferous wood use in the OK (but see Lucas and Harris 1989: 429-31; Davies 1995).¹³⁹ Microscopic analysis shows that cedar was also used for coffins [66-7] (Pl. 9)

¹³⁶ See for example timber descriptions in Junker 1926: 75, Firth and Gunn 1926: 12 and Kamal 1937.

¹³⁷ Lehner suggests that large doors to the Valley Temple of Khafre (now gone) were made of cedar (1997: 126).

¹³⁸ The colour in this instance might describe cedar as opposed to fir or pine.

¹³⁹ Many wooden statues are known from the period, but few publications identify the species of wood used (e.g. Smith 1946: 58-61).

and statues [93, 103]; the latter may have been carved from the off-cuts of cedar coffins (Davies 1995: 153 n. 27). Other imported timbers attested in the OK include cypress [82], juniper [88-9], pine [88] and Cilician fir [81], yew [104], box [68] and possibly hop-hornbeam [65]. These prestige timbers, especially cedar, are found in elite contexts indicating that access to this product was restricted to the upper stratum of society. The desirability of cedar for coffins is exemplified by the use of veneers and painted surfaces imitating the wood (D'Auria 1988: 99-100, no. 31, 105-6, no. 38).

Byblos was probably the main entrepôt for the coniferous timber trade, as the *Admonitions of Ipuwer* describe. This text, thought to outline events of the FIP from a later historical perspective, states that '...men do not sail forth to [Byblos] today. What shall we do for ʕ-wood for our mummies, with the produce of which priests are buried and with the oil of which [chiefs] are embalmed as far as Keftiu' (Gardiner 1969: 18, 32).¹⁴⁰ In addition, some Egyptian expeditions may have been responsible for obtaining their own timber up and down the coast. A copper axe head (Pl. 17a) found at the mouth of the Adonis River just south of Byblos could have been left by an Egyptian timber expedition (Andrassy 1991: 133). Rather than obtaining every timber cargo from Byblos, Egyptian emissaries may have dealt directly with the owner of timber stands along the coast from time to time, loading purchased timber at the mouth of waterways like the Adonis River (Wright 1988: 146-7). These people may be the *Fenekhu* ('woodcutters') who are described in Egyptian texts of the time (Helck 1971: 23-4; Wright 1988: 146-7 and references). Either way, obtaining timber from the mountainous regions of the Levant was undoubtedly a difficult and costly task for whoever cut the trees and transported them to the sea for shipment elsewhere (Rowton 1967: 275).

7.2.8. Fruit-bearing trees and other timbers

The fruits of several trees not native to Egypt are known from Predynastic times. Many of these trees were eventually cultivated in Egypt, but in some cases it is not known when cultivation began. Whether various fruits were imported or locally grown at different periods also remains an open question (Murray 2000: 614).

¹⁴⁰ Gardiner notes, however, the difficulty in reading the word 'Byblos' and follows Sethe's interpretation (Gardiner 1969: 33). For a contrary view on the dating of this text, see Lichtheim, who places it in the late Middle Kingdom. She also disputes its historical basis (1973: 149-50).

A wall relief from the late 5th Dynasty tomb of Ni-ankh-khnum and Khnum-hotep depicts the harvesting of fruit from several trees, including the *pṛt-šni* tree, the only known OK reference to this plant (Fig. 40) (Moussa and Altenmüller 1977: 102, 111, fig. 15). From the illustration, this small tree yielded a petite fruit with medicinal properties according to Papyrus Ebers (Ebers 1889: 240-52). The plant is yet to be positively identified with a known species, but it is assumed to have come from Byblos originally on the basis of a statement in the same text (Ebers 1889: 240; Moussa and Altenmüller 1977: 102 n. 530; Kantor 1992: 20). Thus the species in the relief may have been imported as a tree from Byblos or grown in Egypt from seeds or cuttings that were sourced from that city. Another possibility could be the persea, a tree originally imported from Yemen and Ethiopia, the fruit of which also had medicinal properties and religious associations, and known as early as the 3rd Dynasty (Murray 2000: 625-6).¹⁴¹ However, the accompanying inscription speaks of obtaining these products along with game, grapes and figs from *ḥ3st*, suggesting the ‘mountain country’ to Egypt’s northeast. The inscription may refer to the actual importation of trees, their products or even the harvesting of products in a foreign land (Moussa and Altenmüller 1977: 111). Juniper berries are known in OK burials (see [89]). It is also possible that the scene may represent the symbolic procurement of such products for funerary purposes (Germer 1985: 40).

The same relief also depicts a *pṛt-(w)ṛn* or juniper tree (Moussa and Altenmüller 1977: 102, 111, fig. 15). A range of juniper species grows at different altitudes in the eastern Mediterranean; although the tree is not native to Egypt, *Juniperus phoenicia* occurs in the northern Sinai (Amorós and Vozenin-Serra 1998: 228-31; Serpico 2000: 433). Juniper berries, according to Lucas, were present in Egypt throughout the Dynastic era, with their first appearance even before this (Lucas and Harris 1989: 310-1; Serpico 2000: 433). Lucas believed that a type of juniper berry was often used in place of the more expensive ‘cedar’ oil for mummification and funerary rites (Lucas and Harris 1989: 311-2). In addition, berries from some species may have been imported.

Other imported timbers in the OK are known from isolated objects. Cork wood from tropical Africa is also attested in the 3rd Dynasty and silver birch from the Caucasus may also be present (Gale et al. 2000: 336-7). A wooden headrest was made of Common Box [68] from the ‘hills of western Syria’ (Gale et al. 2000: 337). Ebony wood is attested on the carrying chair of Queen Hetepheres (Reisner and Smith 1955: 33).

¹⁴¹ Other plants appearing in this wall relief are a grapevine and a fig tree, both of which were cultivated locally (Murray et al. 2000: 577; Gale et al. 2000: 340). Judging by its size and the harvesting method, the fig tree here is a sycamore (*Ficus sycamorus*) (Hepper 1990: 58-9).

From the Mortuary Temple of Djedkarre-Isesi a relief fragment describes ‘*mnk*-tree logs, 30 cubits in length’, the earliest mention of this wood (Grimm 1985: 35-6). The reference occurs in association with the phrase ‘overthrowing the foreign land’, and toponyms identified as African, suggesting that the wood belonged to a list of tribute or products procured from Nubia (Grimm 1985: 37-8; Schneider 1998: 20). According to New Kingdom texts, parts of the tree had medicinal properties (Grimm 1985: nn. 29-30). This tree, which is not native to Egypt, was identified by Germer with the styrax, known in the eastern Mediterranean (*Styrax officinalis*) (1985: 147), but this is a questionable attribution. Serpico describes the *Styrax officinalis* as a ‘small tree or shrub’ (Serpico 2000: 437), hence it seems unlikely that this tree could yield logs 30 cubits long. Based on a cubit measurement of 52.5cm (Helck 1980: 1199), this would make the logs nearly 16m. in length, too big to be carried by donkey caravan from Nubia.¹⁴² Rather, logs of this size indicate a sea trip, from a location beyond Egypt with timber resources that could be transported in this fashion. While it is possible that *mnk*-tree logs were sourced upriver, the Nile cataracts would have affected the passage of heavily laden larger vessels (Shinnie 1991: 49.50). This, however, was not always a barrier to overland and river transport. Given the many questions outlined above, the precise identification of *mnk*-wood cannot be established, but it does appear to have been a non-Egyptian timber.

7.2.9. Resins and other oils

Tree resin is obtained by tapping the bark of a tree and catching the escaping viscous liquid. Coniferous resins are ‘pale yellow in colour and translucent’ (Serpico and White 2000: 430-1). Amongst the most prized resins were the aromatic varieties that were obtained from coniferous trees of coastal Syria and Lebanon, notably the fir and the pine (Serpico 2000: 430-1; Murray 2000: 430-1). Various resins were used in Egypt during mummification and other rituals, also for cosmetics, ointments, furniture varnish, incense, pitch and tar, and possibly adhesives (Gardiner 1969: 32; Lucas and Harris 1989: 316-24; Serpico 2000: 430). Other imported resins are known from Predynastic tombs (Prag 1986: 71; Serpico 2000: 430). From the reign of Djer, *Pinaceae* resins from the ‘pine, cedar, fir and spruce’ were imported from the northern Israel/Mount Hermon area (Serpico and White 1996: 136-8, Serpico 2000: 431; *contra* Lev-Yadun and Gophna 1992).

Oils and resins from Africa were also imported. The Palermo Stone records 80,000 units of myrrh from Punt during the reign of Sahure, the earliest recorded journey to this land (*Urk.* IV: 246.4). Harkhuf returned from Nubia

¹⁴² Harkhuf mentions ebony wood as a product from Nubia in his returning caravan (Lichtheim 1973: 26).

with oil and incense-resin (*Urk.* I: 126.7 to 127.1-3), the latter probably fragrant frankincense or myrrh from Africa or Ethiopia (Serpico 2000: 438-40).

Coniferous resins were also imported during the OK (Lucas and Harris 1989: 320). Two terms are known for 'cedar' or coniferous oil: *ʕš*, and *sft* (Helck 1971: 25-7, Ward 1991: 13). Numerous OK inscriptions on the walls of tombs and on various objects mention *ḥ3tt nt thnw* or 'best Libyan oil' and *ḥ3tt nt ʕš*, usually translated as 'best cedar oil' (e.g. Kanawati and McFarlane 1993: 57). Both of these oils belong to the standard list of seven sacred oils and are extensively mentioned in OK offering lists (Barta 1963: 48, 55-6, 73). *ʕš*-oil is generally assumed to be from Byblos, largely on the basis of a statement in *The Admonitions of Ipuwer* (Gardiner 1969: 32).

Lucas viewed *ʕš*-oil as resin obtained either from the *Pinus halepensis* (Aleppo pine), *Abies cilicica* (Cilician fir), *Pinus Pinea* (Stone or Umbrella pine) or *Picea orientalis* (Oriental spruce) rather than cedar. He determined that 'cedar...although it does produce resin when wounded, does not produce it readily or in great quantity ...[hence] cedar resin may be excluded' (Lucas and Harris 1989: 319). On the other hand, Serpico states that except for *Abies cilicica* it is otherwise impossible to separate chemically cedar resins from those produced by other members of the *Pinaceae* family (2000: 445). Hence, on the current state of knowledge it may be more accurate to translate *ʕš*-oil as 'oil of the coniferous tree' rather than the traditionally accepted 'cedar oil' (Ward 1991: 13).

To date, only three imported Giza jars have had their contents or residues examined scientifically. Only two yielded any useful results. The study by Lucas of a 5th Dynasty jar [37] revealed the presence of 'a small proportion of resins-like material', but he was unable to be more definite (Hassan 1936: 147). He tested another mid 4th-early 5th Dynasty vessel [25] and found that it contained 'fragrant resin, a true resin as distinguished from fragrant gum resins, such as frankincense and myrrh. It is almost certainly from a coniferous tree, and from Western Asia, that is, from Syria or Asia Minor' (Reisner and Smith 1955: 75; Knapp 1991: 30). Lucas identified this resin as an example of *ʕš*-oil mentioned in Egyptian texts, probably from *Abies cilicica* (Cilician fir) or *Pinus halepensis* (Aleppo pine), and possibly mixed with a fragrant oil (Lucas and Harris 1989: 319-20).¹⁴³ Other vessels may have contained a mixture of resins and oils (Serpico and While 1996: 132-3). Moreover, NAA revealed that this particular vessel came from Byblos (Esse and Hopke 1986: 334; see Ch. 6).

Pinaceae resin, perhaps mixed with oil or perfume, was certainly one of the commodities imported from the Levant in ceramic jars during the OK. Byblos was a coastal entrepôt for this trade, although the *Pinus halepensis* is also known in Jordan and Israel (Serpico 2000: 432-3). *Pinaceae* resin in a jar from

¹⁴³ In respect of the *Pinus halepensis*, Meiggs states that the wood of this tree 'is not strong; today in many areas it is valued most for the resin it supplies' (1984: 44).

northern Canaan points to northern Israel/Hermon, in the region of Tel Dan as another source of this product as early as Djer's reign, with Beth Yerah probably acting as a 'clearing house' (Serpico and White 1996: 136-8; Ch. 2). Continuing in the OK, this trade served as the rationale for Egypt's on-going relationship with northern Canaan, evidenced by the probable origin of at least three Giza Combed Ware jars from the central Levant (see Appendix II, Ch. 6.12). Further work is needed to isolate specific resin types, and more particularly to test the contents of imported OK ceramic vessels.

7.2.10. Slaves and human cargoes

Several scholars have pointed to the possibility of slaves forming part of state-to-state trade with Egypt (Borchardt 1913: 26; Anati 1963: 350; Helck 1971: 16; Ben-Tor 1986: 10; *contra* Ward 1991: 14). Cargoes of people arrived in OK Egypt as prisoners of war, vanquished populations or a form of tribute from a foreign centre. While such influxes are only recorded in the textual and pictorial records, leaving no trace in the archaeological record, such acquisitions must nonetheless be included in any discussion of foreign interconnections.

A number of texts describing military activity in Asia and Nubia refer to prisoners of war and/or people taken captive by Egypt (Schneider 1998: 13-24). During military expeditions in Nubia and Libya Sneferu took 70,000 and 1,100 captives respectively (*Urk.* IV: 236.12; *Urk.* IV: 237.14; Vachala 1991: 93-4). If they are to be believed as records of historical events, reliefs from a likely 4th Dynasty royal monument (Goedicke 1971: 145-8) suggest that large groups of captives included children, defeated chiefs and their families.¹⁴⁴ In the later OK, foreigners such as Nubians serve in the army on Egyptian campaigns, as Weni's inscription attests (Vachala 1991).

Taking foreign captives from a walled Asiatic town is also depicted in Inti's late 5th Dynasty tomb at Deshasha (Fig. 41). The last register shows Egyptians leading away men, women and children (but no material booty) to an unknown fate from the defeated settlement (Vachala 1991: 96-7). The late 5th Dynasty scene from the tomb of Ka-em-hesit at Saqqara depicts Egyptian military action against another walled town, but no captives are shown (Fig. 42). Weni describes taking many prisoners during his campaign against the Sand dwellers (*Urk.* I: 104.3; Vachala 1991: 95-6; Redford 1992: 54-5).¹⁴⁵ Also in the 6th Dynasty, Pepynakht brings prisoners from Wawat and Irthet in Nubia (*Urk.* I: 133.14-5).

¹⁴⁴ The same reliefs on the monuments of Pepy II are copies of an earlier royal monument and are disregarded as evidence for an actual military campaign (Schulman 1979: 88-101; Gaballa 1976: 23).

¹⁴⁵ This and similar moves by Egypt are regarded by some scholars as having contributed to the de-population of the region which occurred during the EB IV (Richard 1980: 1-11).

In contrast, a more peaceful arrival of human cargo during the reign of Userkaf is recorded on the Palermo Stone. The entry notes an ‘expedition’ by Userkaf to a place whose name ends in a crenellated oval but is otherwise unreadable, and the inhabitants of this locality bringing to Userkaf’s mortuary temple *in(w)* of ‘seventy foreign women (*h3st iwt*)’ (*Urk.* IV: 240.3-4; Vachala 1991: 95). Ultimately the precise source of this *in(w)* is unknown (Andrassy 1991: 134), although Redford would have it placed in Canaan, owing to the crenellated determinative denoting a ‘foreign’ town or region (1986a: 136 n. *an*). Redford suggests that the *in(w)* (benevolence) behind this and other ‘gifts’ described in similar terms was in fact a form of ‘enforced gifts’ or ‘spontaneous tribute bringing’ from Canaan which, along with the acquisition of products, largely motivated Egypt’s relationship with the region (Redford 1986a: 133, 140-1). However, the meaning of OK *in(w)* has been more plausibly defined as a specific kind of official gift, ‘an exchange between the king and others that could be redistributed’, suggesting that other, more benign interpretations of the Userkaf text are possible (Bleiberg 1996: 53).

As with wars throughout the ages, we can only assume that the taking of prisoners was part of Egyptian military victories and possibly one of the reasons for it. However, without understanding more of the political context of the relationship between Egypt and Canaan, if indeed Userkaf’s inscription refers to the region, such exchange may still refer to a trade in slaves. Interpretations of this text depend heavily on the meaning of the word *in(w)*, a debate which is by no means completely settled, although the more militaristic interpretation of *in(w)* as ‘conqueror of..’ is now rejected (Ogden 1982; Redford 1986a: 135 n. *ab*).

The movement of peoples is also attested in other sources. The well-known scene from Sahure’s Mortuary Temple at Abusir depicts the apparent peaceful arrival of Asiatics to Egypt (Fig. 43), the meaning of which has been much debated (see Ch. 1.3.2). The same can be said for a similar scene from the Unas Causeway (Pl. 19), although this example, so similar to the Sahure relief, may be a form of royal emulation. A relief showing starving Asiatics from the Unas Pyramid complex suggests the movement of foreigners caused by famine or other hardship (Schott 1965). Harkhuf describes how in Year 2 of Pepy II’s reign a dancing pygmy was brought from Punt and explains how this recalls a similar event under Djedkare-Isesi (*Urk.* I: 128-31; Kadish 1966: 26; Schneider 1998: 20). Evidently this acquisition was so much admired that not only did the memory of this pygmy live on for several generations, but Pepy II himself was desirous of owning one. The basis on which both Djedkare-Isesi and Pepy II acquired their pygmies was probably trade/exchange or royal gift, as there are no indications that these individuals were brought to Egypt by force on either occasion.¹⁴⁶

¹⁴⁶ Djedkare-Isesi’s official was ‘treasurer of the god’. Harkhuf did not have any military titles, described rather as ‘governor of the south’ and ‘caravan conductor’ or ‘caravaneer’

7.2.11. Other products

Obsidian is a naturally occurring volcanic glass that from earliest times was traded extensively throughout Western Asia (Renfrew 1975; Hallam et al. 1976; Dixon 1979; Torrence 1986). In the fourth and early third millennium, obsidian was probably imported from the hinterland of western Yemen on the Arabian peninsula, or from a region on the Eritrean coast around the Buri peninsula and the ‘northern part of the East African Rift Valley in Ethiopia’ (Zarins 1989: 367; 1990; Aston et al. 2000: 46; Bavay et al. 2000b).¹⁴⁷ Obsidian found in the north of Egypt may have come from Anatolia, as suggested by analysis on samples from Naqada IIA-B Buto and Naqada IIC-D Tell el-Iswid (Dixon et al. 1976: figs 15.8, 15.13; Wenke et al. 1988: 27-8; Bavay et al. 2000b: 19; Bavay et al. 2004). The recent discovery of blocks of raw obsidian along with debitage at Tell Arqa on the Lebanese coast points to a prehistoric Levantine trade in Anatolian obsidian (Thalmann 2000: 20-1). Like lapis lazuli, there appears to have been a hiatus in supply during the early third millennium (Zarins 1989: 367; Aston et al. 2000: 47).

In the 5th-6th Dynasties, obsidian was used as inlay (Corteggiani 1987: 58-9, no. 26) and for model vessels (Aston et al. 2000: 47; Verner 1978: 159). In all documented uses of OK obsidian the quantities would appear to be small, notwithstanding the uncertain identification in some older reports (see especially Firth and Gunn 1926: pl. 15A top row; Hassan 1941: 12, figs 11 and 13c; Hassan 1943: 157, fig. 110, lower right, pl. 44c). Fifth and 6th Dynasty expeditions to Punt and Nubia may also have obtained obsidian either directly or via down-the-line trade (Vercoutter 1988: 15). No analyses of obsidian from OK contexts have been published.

Hennessy pointed to the possibility of traded bitumen (asphalt) from the Dead Sea during the EBA (Hennessy 1967: 60), but no firm evidence exists (Serpico 2000: 454-5). This substance is known, however, from Naqada IIA/EB IA Maadi (Rizkana and Seeher 1989: 71; Connan et al. 1992). Foodstuffs such as legumes and moringa oil (perhaps mixed with other oils or herbs) may have been imported (Ward 1991: 14-5; Serpico and White 1996: 132-3), but again no evidence is known (Lev-Yadun and Gophna 1992). Salt from the Dead Sea could have been another product.

7.3. Egyptian exports

The following section draws together what slender literary and archaeological evidence has survived to shed at least some light on the Egyptian side of the

amongst other things (*Urk.* I: 120). These, at least, were not military expeditions, even though the army formed part of the caravan contingent.

¹⁴⁷ It should be noted that these provenance studies are based on analyses of obsidian from other periods, not the OK.

commodity exchange ledger. The situation is more promising for manufactured goods and these Egyptian exports are considered in the next chapter.

7.3.1. Raw stones and shells

A trade in raw stones and shells between Egypt and the Levant is attested as early as the Chalcolithic (Bar-Yosef Mayer 2002). In relation to the OK/EB III-IV, the possibility of Egyptian stone as a commodity has not been examined, although debate has occurred in relation to third and second millennium stone vessels in Mesopotamia and Crete (Potts 1989: 123; Warren 1991: 297). However, a piece of raw turquoise from Tel Yarmuth points to such a trade in the EB III (Ch. 4.8.5). In addition to stones, imported Red Sea shells include *dentalium*, mother-of-pearl and Red Sea Spider Conch or Scorpion shell (*lambis truncata sebae*) [110] (Fig. 19). Shells imported from Egypt are also attested in a small number of EB II contexts (Bar-Yosef Mayer 2002). These materials may have come directly from Egypt or down-the-line via Sinai networks.

A number of palettes found in EB III Canaan lack close Egyptian parallels and thus are probably a local product, but are manufactured from stones that are, on the present state of knowledge, not found in Canaan. The stones may be imported from Egypt or the Sinai (see Ch. 8.3.2).

Travertine, mica schist and other stones may have also been imported to Canaan for macehead and palette production, but again the question of whether these materials are actually Egyptian arises (Braun 1993: 124). Likewise, carnelian is widely regarded as a material found in Egypt and not Canaan (see Aston et al. 2000: 26-7), however, the presence of carnelian nodules in the wadis of Jordan (Broeder pers. comm. 28/9/99) means that a local source of the stone is likely. As the pieces of raw obsidian from Tell Arqa suggest, certain stones were exchanged in the ancient Near East throughout antiquity and this may have been the case for exotic Egyptian stones during the third millennium BC.

7.3.2. Gold

Egypt had abundant gold sources, located in the Eastern Desert, Upper and Lower Nubia (Lucas and Harris 1989: 224-8 with references; Klemm and Klemm 1994; Ogden 2000: 161). It was mined and used extensively as a luxury product from Predynastic times onwards (Ogden 2000: 161). During the OK, the 'gold of Koptos' in the Eastern Desert was the most likely source of bullion (Ogden 2000: 161).

No textual evidence exists for the Egyptian export of gold during this time.¹⁴⁸ Nevertheless, in light of its great resources and later role as a gold exporter, there is a strong possibility that gold was exchanged with Levantine elites to help pay for what Egypt imported from the region (Ward 1963: 56; Ben-Tor 1982: 13; Marfoe 1987: 27). Indeed, royal gifts of gold to foreign rulers are well-known from the Ebla texts (Pettinato 1991: 248-9, MEE 1 no. 700), although the suggestion that Egyptian ships came to Byblos with gold for Ebla (Pettinato 1991: 113) lacks any textual or archaeological foundation.

To establish whether Egyptian gold was exported, we must rely largely on typological analysis to isolate possible cultural influences and origins of specific objects. The debate surrounding the gold objects in the EB II Kinneret tomb is an example of this approach (Mazar et al. 1973). However, this avenue of investigation is fraught with difficulties. Firstly, as gold objects rarely escape the melting pot over time, only small quantities have been found in Canaan (Ben-Tor 1982: 13). Secondly, gold as a raw material may have been imported from one region and fashioned into objects bearing the stylistic influences of another. A more promising avenue of research is elemental analysis using recently developed technologies to identify gold ‘fingerprints’, which can pinpoint gold sources and thus help illuminate ancient trading patterns (Walting et al. 1994).

Isolated amounts of gold have been found in Canaan. A bead comes from Lachish (Tufnell 1958: 73, pl. 29.17 – broadly dated context from EB I-III) and a piece of gold leaf jewellery was found in the EB II/III Charnel House A22 at Bab edh-Dhra (Rast and Schaub 1980: 39). The radiating leaf pattern recalls similar designs from ED stone vessels from Saqqara (Petrie 1900: pl. 38.1-2; Emery 1961: pl. 33b, 39a). Other gold beads are known from Bab edh-Dhra and the raw material (or indeed the beads themselves) may have come from Egypt (Broeder and Skinner 2003: 592). The possibility that such objects came from Egypt as luxury traded items during this time is possible (Ben-Tor 1992: 119); conversely gold as a relatively rare precious metal in Canaan probably had a significant ‘heirloom value’, with objects passed down from one generation to the next.

Gold found in third millennium Crete may be of Egyptian origin (Warren 1995: 6) but this cannot be assumed owing to the presence of gold in north-west Anatolia (Warren 1995: 1).

7.3.3. Egyptian foodstuffs, oils and other products

Evidence for the export of Egyptian foodstuffs during the OK is scanty, making scholarly consideration of the issue highly speculative (*contra* Ben-Tor 1986: 10).

¹⁴⁸ Gold found in the Nahal Mishmar treasure, dated to the Chalcolithic Period, may have come from Egypt: Gopher et al. 1990.

Egypt may have exported grain but again no OK textual or archaeological evidence is known.¹⁴⁹ However, as the text from Sabni's Aswan tomb illustrates, foodstuffs were included in trading missions. The inscription describes Egyptian goods of a perishable nature, such as honey (*Urk.* I: 136.5). A bee-keeping scene from the 5th Dynasty Sun Temple of Niuserre shows that bees were kept in Egypt by the late 5th Dynasty (Serpico and White 2000: 410), hence high quality honey could have been a gift exchange or trade item in the Levant. Indeed, the discovery of an Egyptian jar, designed to hold a liquid product like honey or oil, at EB III Bab edh-Dhra [118] (Fig. 19), suggests that Egyptian liquid products travelled not just to Nubia with Sabni but also to the Levant. It is possible (but entirely unattested) that high quality Egyptian bee's wax was also traded. Sabni also mentions *mrht*-oil (*Urk.* I: 136.5), the identity of which is not known. Evidently Egyptian oil of an unknown source was also a sought-after item.

Egypt may have acquired myrrh, ebony wood and other products from the south not only for its own uses but for further exchange in the eastern Mediterranean. Again no direct evidence exists for this practice. Yet as Sahure's Palermo Stone entry indicates, acquisition of products from far away places such as Punt was often done on a large scale (*Urk.* IV: 246.4), possibly creating an 'export surplus' in aromatic substances and other products.

7.3.4. Animal products

The appearance of hippopotamus ivory in EM IIA Crete [191] points to a possible down-the-line trade in raw ivory from Egypt (Krzyszkowska 1984; 1988; Phillips 1996: 459-60). However, hippopotami were also known swampy areas from Syria/Palestine (Krzyszkowska 1990: 20) including the region of the Amuq and Orontes Valley (Krzyszkowska and Morkot 2000: 326), so other supplies were certainly available for exchange in the eastern Mediterranean. Despite this, hippopotamus ivory was used in Egypt for carving objects as early as the 4th millennium BC but is not known to have been used in the Levant 'between the Chalcolithic and early Iron Age' (Phillips pers. comm. 26/1/08).¹⁵⁰ Thus it is likely that the raw material in Crete, used for making seals carved in Egyptian motifs such as the fly, pyramid, squatting ape and other small items, comes from Egypt (Krzyszkowska and Morkot 2000: 326; Warren 1995: 1-2; Phillips 1996).

Hippopotamus ivory may have been traded into Canaan as a raw material for the manufacture of beads and other small objects (Broeder and Skinner

¹⁴⁹ Ward notes that later Egyptian texts mention the export of 'cereals and various fruit and vegetables' (Ward 1963: 56).

¹⁵⁰ Reporting O. Krzyszkowska's lecture in London on 10/12/01 entitled 'From the Hippo's Mouth: Sources of Ivory and Bronze Age Trade', delivered at the Institute of Classical Studies.

2003: 584). That ivory was an exchange item is illustrated by Harkhuf, who brought back elephant ivory and leopard skins from Yam (*Urk.* I: 126.7 to 127.1-3; see also Broeder and Skinner 2003: 582). Such products from Nubia may have been exchanged in the eastern Mediterranean by Egyptian royal emissaries, although there is no evidence for this proposition.

Ostrich shells are also known in the Levant, with ostriches present in Jordan during this time (Reese 1985: 374-78; 1992: 155). Thus, the products of this bird such as those found in EM III Crete and EB III sites like Tel Halif (Lahav) cannot be assumed to have come from Egypt (*contra* Phillips 1996: 463; see also Ch. 4.5.3).

7.4. Conclusion

The above discussion highlights how much scientific work remains to be done on the precise nature of the OK Egypt-Levantine commodities trade. The insufficiency of relying solely on visual inspection of an object, or the literary record, means that debate often lacks a secure and verifiable scientific basis. Further residue analyses and raw materials testing are required on virtually every commodity that may have been imported or exported. Notwithstanding these remarks, it is still possible to characterise aspects of the OK-EB III/IV international commodities exchange.

The Egypt had four principal geographical foci in the quest for raw materials: the Sinai, the north Levantine coast, northern and southern Canaan. The most important of these links was Byblos and the coastal region around this city probably as far as Tell Arqa, connections that stretched back to the fourth millennium, but which gained real momentum in the ED.

Coniferous timbers, particularly cedar, and their by-products were the key commodities that continued attracting Egypt to the Levantine coast during the OK. As the entry for Sneferu on the Palermo Stone indicates, this trade was conducted on a large scale and was state-sponsored. Textual and archaeological evidence from the 4th Dynasty highlights the quantities of these shipments and the various uses to which imported timbers were put, including shipbuilding, construction and decorative architectural elements. Indeed, the 4th Dynasty may have witnessed the zenith of the sea-borne timber trade, but this conclusion would require testing against a larger body of material. Imported timbers were also used for making coffins, statues and other small objects throughout the OK.

The most common foreign timber in Egyptian texts is 𓆎-wood, which was imported in significant quantities and used for shipbuilding and other items. Limited analysis of OK wooden objects indicates that cedar was the most common imported timber, and therefore may be 𓆎-wood, but the coniferous timber trade also embraced pine, juniper, fir, yew and cypress. Other timbers such as box are also known in small quantities. To date, only limited scientific identification of OK timbers has been conducted; further work is required to

more fully understand the use of imported timbers in Egypt, including the extent to which imports filtered beyond the elites.

Byblos acted as an entrepôt, but Egyptian agents may have obtained wood directly from those owning or controlling timber stands along the Levantine coast. Other foreign timbers such as *mnk*-tree wood, *mrw*-wood and ebony from Nubia were also imported. Pictorial evidence also suggests that species of live trees foreign to Egypt, such as the *prt-šni*-tree from Byblos and juniper (*Juniperus phoenicia*) from the Sinai, may have been imported and cultivated. The medicinal properties of the fruit, in addition to their use in mummification, required a steady source of produce. Yew was also imported in small quantities from the Levant.

Coniferous tree resins and perfumed oils were also imported in ceramic jars from the reign of Djer onwards. Egyptian texts describe the products as *ʕš*, and *sft*-oil. The terms probably refer generically to resin from coniferous trees. The base product was probably *Pinaceae* or fir resin rather than the traditionally accepted cedar oil. During the ED, the Galilee and northern Canaan/Mount Hermon region via Beth Yerah were the focus of this trade. By the OK, these products came from Byblos as well, resulting in the decline (but not total cessation) of the northern Canaan resin network. NAA shows that one OK imported jar with fragrant resin came from Byblos; PIXE-PIGME results reveal that jars containing products from northern Canaan continued arriving in Egypt. Oils and resins from Nubia, including myrrh, were also sought.

The ceramic jar from Giza [55] originally from northern Syria/Cilicia, indicates that Egypt sourced oils, resins or perfumes from the furthest reaches of the northern Levant, either directly or down-the-line. This pattern of exchange included Ebla, a focus of Egyptian interest owing to its position as an entrepôt for lapis lazuli and silver. Silver may have been used as a means of exchange elsewhere rather than obtained exclusively for the production of objects in Egypt, for which locally extracted silver may have been used. The extent to which the silver and lapis lazuli trade was conducted directly with Ebla is unknown, as either Byblos or Ugarit may have served as exchange centres. However, the presence of stone vessels at Ebla with royal names suggests that like timber, networks with Ebla did exist, and were state-sanctioned.

Live animals, animal products and plants were also obtained. From at least as early as the reign of Sahure, the Egyptian elites sourced exotic animals from the northern Levant for royal menageries. Animal products such as skins and elephant ivory were imported from Nubia. Hippopotamus ivory was also traded in the eastern Mediterranean, finding its way to Crete and probably elsewhere. Exchanges between rulers, and war booty, also involved live animals such as cattle.

A trade in people is known from the textual evidence and wall scenes, but care should be taken in describing this as slavery. Captives and prisoners of war in large numbers are attested in inscriptions as early as the reign of

Sneferu, and again in the 5th and 6th Dynasties. As to whether the arrival of a 'royal benevolence' consisting of seventy women from an unknown region occurred as a result of an enforced gift or other exchange must remain an open question. Indeed, it is uncertain whether the region involved was even located in the Levant. Dancing pygmies from Punt were brought back to Egypt for the enjoyment of the king during the reign of Isesi and Pepy II.

The products of Canaan were still in demand during the OK. While coniferous resins arrived in Combed Ware jars from northern Canaan, the quantities were greatly reduced when compared to this trade in the ED. Olive oil or other oils may have been imported from southern Canaan in Combed Ware jars. Early Dynastic imported jars contained traces of vegetable oils, but no residue analysis has been conducted to confirm the presence of such products in OK imported ceramics. However, the association of Combed Ware jars with an olive oil production installation at Ras Shamra points to the use of at least some jars for olive oil transport. The wide extent of olive cultivation in EBA Canaan, combined with NAA results pointing to an origin in southern Canaan for at least four Combed Ware jars from Giza (Ch. 6.11), provides compelling circumstantial evidence for an olive oil trade, or other oils such as moringa, or a mixture of oils and perfumed resins. By the OK, grape cultivation was well established in Egypt, so demand for imported wine may have decreased, although special vintages may have still been obtained. Other products such as asphalt and salt were possible imports, but no evidence is known.

In all likelihood, copper was also obtained from the Wadi Feinan, as it had been from earliest times. This is suggested by the presence of Egyptian objects in EB II and EB III deposits at Bab edh-Dhra and Numeira. Textual evidence for cult objects of 'Asiatic copper' points to a precious metal that ranked in rarity and value behind silver or gold. The precise identity of this material is unknown, but this metal was possibly imported bronze from northern Syria or imported copper from the Feinan. Again, a program of testing OK copper objects and residues is required to confirm this conclusion. Archaeological evidence from the Sinai also indicates that Egypt was exploiting the copper and turquoise resources at Wadi Maghara. In addition, local Eastern Desert sources near Gebel Zeit were exploited during the early OK at least.

Characterising Egyptian exports is difficult. Manufactured goods such as palettes, faience beads, and stone vessels are easily identified 'exotica' and were probably traded and given as gift exchange, diplomatic presents or keepsakes. Honey and *mrht*-oil, known from Sabni's caravan, leave no trace in the archaeological record, and yet textual evidence points to their exchange by Egypt as a diplomatic gift or trade item. Gold may have been exported, but no real evidence exists without further analysis of gold objects from the Levant. Palettes from EB III Canaan have been examined petrographically, showing that Egyptian and Sinai stones were used in the production of objects. This may suggest an export of Egyptian raw stones, but it is also possible that these

were Egyptian finished goods sent as gifts or tribute. Other exported raw materials include Red Sea shells and turquoise via Sinai networks. Carnelian may have been obtained from local wadis rather than directly from Egypt in every case.

The commodities imported and exported by Egypt fit into the pattern of third millennium state-to-state gift exchange, trade and war booty, highlighted in the fragmentary Egyptian textual record, the Ebla texts, and records from southern Mesopotamia. Trade involved the exchange of luxury items such as gold, silver and other metals, lapis lazuli, exotic timbers, resinous oils and perfumes, raw stones, exotic foodstuffs, animals and people, to provide elites with high-status goods not available locally.

8. THE EGYPTIAN-LEVANTINE TRADE IN MANUFACTURED GOODS

8.1. Introduction

Archaeological and textual evidence shows that both raw materials and manufactured goods were exchanged in the eastern Mediterranean during the EB III-IV. Imported Egyptian objects also inspired a local class of ‘egyptianising’ artefacts designed for local consumption.

This chapter discusses the various classes of imported manufactured goods found in the EB III-IV Levant. It will be seen that very few manufactured goods of foreign origin are found in Egypt (apart from ceramics), yet Egyptian products such as palettes, stone vessels and beads are widely known in Canaan, the Aegean and the northern Levant. Owing to the durability of the material, these pieces have survived, unlike perishable commodities. Some of these objects are also attested in the textual record.

In addition, various classes of egyptianising manufactured items are known, and the reasons for the production of these objects will be canvassed. It will be argued that Egyptian manufactured items, largely objects of a luxury nature, were widely exported as trade items, gift or diplomatic exchange, although the distinction between these categories is sometimes hard to define.

8.2. Stone vessels as Egyptian ‘exports’

8.2.1. Observations on Old Kingdom stone vessel production

In the past, OK stone vessel studies have relied on the work of Petrie (1937), von Bissing (1904-7), Bonnet (1928) and Reisner (1931a; 1932; 1942; Reisner and Smith 1955: 90-102). However, a series of newer works adds significantly to our understanding of the use and development of stone vessels (el-Khouli 1978; Spencer 1980: 18-23; Aston 1994; Hendrickx et al. 2001) more generally, Lilyquist 1995; 1996; Sparks 1998; 2007; Vlčková 2006). These studies concentrate on typological development, distribution, manufacturing techniques and the accurate identification of stone types.

Reisner’s typological study is still the main reference text, but even this work focuses mainly on the 1st-4th Dynasty, with the addition of some 5th Dynasty material (Aston 1994: 76-7).¹⁵¹ Although his work is not without its problems (Aston 1994: 76-8), Reisner demonstrated that OK stone vessel production belongs to a tradition of craftsmanship stretching back to Naqada

¹⁵¹ Vlčková notes that stone vessels from the 5th and 6th Dynasty are still poorly understood (2006: 23).

IIC (Reisner 1931a: 130-99). Like pottery, it is possible to chart typological changes and the use of different stones through time (Aston 1994), although sadly any statistical work using the vast quantities of stone vessels found in repositories like the Djoser Pyramid is now impossible owing to the inaccessibility of the material.

Several observations can be made about stone vessel production during the third millennium that bears on the identification of Egyptian products abroad. Firstly, the 1st-2nd Dynasty is characterised by use of a greater variety of stone types (particularly hard stones), shapes and overall, higher quality vessel production (Reisner 1931a: 131, 138; Ben-Dor 1945: 93; Spencer 1980: 18-9; Aston 1994: 27, 47). Output also increases, with a greater number of even modest burials containing stone vessels (Reisner 1931a: 7). The reign of Khasekhemwy marks a new phase of expanded output that continued until the end of the 3rd Dynasty (Reisner 1931a: 138). Great stone vessel deposits from the 3rd Dynasty funerary monuments of King Djoser and Sekhemkhet characterise the scale of production from this era (Lauer 1939: 6-34, pls 6-19; Goneim 1957: pls 29, 34B, 35).

Reisner claimed that stone vessel production declined in quantity and quality during the 4th-6th Dynasties, attributing this to the widespread use of the potter's fast wheel, capable of quickly making large quantities of fine ceramic forms previously manufactured in stone (1931a: 174). The wider availability of metal vessels may have also played a role. However, as the Egyptian corpus at Ebla, Byblos and elite contexts in Egypt shows, stone vessels for high-level consumption were still well-made and of superior standard (Jéquier 1933: 28-33; Minault-Gout et al. 1992: 81-3, 107-14, pl. 35-40; see also Ch. 5.3, 5.5).

Secondly, noticeable in the OK is a change in the range of shapes and number of stone types used. Craftsmen adopted a monochrome palette of black, white and grey by using white limestone (both soft and indurated), porphyry, syenite, gneiss, diorite and especially travertine (Reisner 1931a: 174-82; Sparks 1996: 53). Egyptians called the latter *šs*; in the modern literature it is erroneously described as alabaster (Ben-Dor 1945: 95; Lucas and Harris 1989: 413; Harrell 1990; Aston 1994: 1-2, 43, 48-51; Sparks 1996: 52-3). 'Chephren diorite' or anorthosite (or diorite) gneiss appears in the 4th Dynasty, made into fine bowls with everted rims, and a limited number of other forms (Aston 1994: 62-4). The 5th Dynasty witnesses the introduction of new shapes (Reisner 1931b: 202). Many tombs contain larger numbers of model stone jars rather than a suite of full-size hard stone examples.

Insufficient geological knowledge has resulted in the incorrect identification of stone types, and other finds wrongly ascribed as Egyptian in origin, when they should be identified as egyptianising or even totally non-Egyptian (Aston 1994: 1; Lilyquist 1996: 136). The identification of ancient quarries and stone sources is helping clarify the origin of many

vessels, especially when they can be examined petrographically (Aston 1994: 11-73; Lilyquist 1996: 136-43).

Use of the term 'alabaster' in the older literature is confusing and suggests an Egyptian origin for objects which may be manufactured from local stones. Calcite and travertine differs from alabaster (or gypsum) in several key respects. Firstly, travertine is a strong, crystalline version of calcium carbonate with a Moh's hardness of 3-3.5, often yellowish in colour and with a banded appearance. Travertine occurs in Egypt in a variety of locations, notably near Helwan and at the famous Hatnub quarries in Middle Egypt (Lucas and Harris 1989: 59-60; Aston 1994: 44-5). According to Ben-Dor, it is not known 'in workable deposits in Syro-Palestine' (1945: 95; Bourke et al. 1994: 93).

Gypsum is a form of calcium sulphate that is whiter and can be scratched with a fingernail [Moh's 2.5] (Ben-Dor 1945: 94-5; Lucas and Harris 1989: 57, 413; Sparks 1996: 53). The stone is known in Canaan (and also Egypt), which in the second millennium formed the basis of a local stone vessel industry with strong Egyptian antecedents (Sparks 1996: 53). As a result, scholars have tended to regard many second millennium travertine vessels in the Levant, when made using Egyptian stone working techniques, as being of Egyptian origin (Sparks 1996: 56; *contra* Lilyquist 1996: 145-6). However, in a recent survey of known quarries in the eastern Mediterranean, Lilyquist demonstrated that travertine deposits were more widespread than previously thought, hence not every travertine object may be Egyptian (1996: 140-1). Deposits of travertine have now been identified in Canaan (Lilyquist 1996: 140).

The main corpora of published OK stone vessels comes from temples associated with the royal funerary complexes of Menkaure and Reneferef (Reisner 1931a: 178-99; Vlčková 2006). However, as the royal tomb of Queen Neit indicates, high status tombs of the OK contained significant quantities of quality stone vessels, including those with royal names and others finely carved in delicate shapes (Jéquier 1933: 28-33). The burial equipment of many senior OK officials also included stone vessels carved with their names and titles, but tomb robbing means that few examples exist.¹⁵²

A number of OK stone vessels bear royal inscriptions, primarily king's names and epithets, a tradition which began in the ED (Petrie 1900: pl. 4-9; Petrie 1901: pl. 8; Jéquier 1936: fig. 6; Lacau and Lauer 1959; 1961; 1965; Kaplony 1968; Vlčková 2006: 83).¹⁵³ Complete and fragmentary stone

¹⁵² The tomb of Kagemni, dating to the reign of Teti, contained four large inscribed travertine vessels, each with lids and of a slightly different shape. They are possibly canopic jars (Firth and Gunn 1926: pl. 12A and B).

¹⁵³ Older scholarship has a frustrating tendency to publish only the hieroglyphic inscriptions with little or no information about the actual vessel shape or stone type (see for example Nelson 1934). Similar problems have been encountered by archaeologists seeking to study ceramic pot marks (van den Brink 1992: 267).

vessels, particularly those with royal inscriptions, acquired particular heirloom value that saw many kept and re-buried at a later stage (Ward 1991: 13).¹⁵⁴ 'Heirloom' implies the deliberate transmission from one generation to the next of an object (or objects) of intrinsic value. Their significance might be a combination of personal, political, cultic or economic.

Vlčková (2006: 42-3) describes this as the 'passive period' (as opposed to the 'active period') in the life of a stone vessel, when it is re-used but the type itself is no longer made. An example of the historical retention of stone vessels or fragments inscribed with the names of past kings is found in Djoser's Step Pyramid, where a number were recovered within its passages (Firth and Quibell 1936: pl. 88; Lacau and Lauer 1959; Smith 1971: 156). Burial of this material appeared to be a deliberate, politico-historical act to associate and therefore legitimise Djoser with past rulers by establishing 'dynastic continuity' (Baines 1995b: 131-2). That some of these vessels may have been given specifically as gifts at one point is attested by the inscription *in(w) hr nswt* 'gift of the king' on a vessel from the Djoser complex (Lacau and Lauer 1965: 6-7, no. 5; Arnold and Pischikova 1999; Vlčková 2006: 89 n. 373).¹⁵⁵

The retention of stone vessels was also observed at the Menkaure temples at Giza (Reisner 1931a: 179). Some stone vessels there belonged to the ED Period, indicating that this building functioned as some sort of stone vessel repository (Reisner 1931a: 180, 199, 201; Vlčková 2006: 91). The same can be said for stone vessels in Sahure's funerary complex, and also Niuserre and Neferirkare (Reisner 1931a: 199-200).¹⁵⁶ These repositories of antiquated stone vessels existed 'for the funerary service of [the] royal tomb'; in Reisner's view they represented 'an attempt to construct for the king's tomb a set of these old forms which had, by tradition, been placed in tombs since Dynasty 1' (Reisner 1931a: 199, 201).

Indeed, Schulman observed that there 'is no non-royal individual in pharaonic Egypt who owned an object inscribed only with a royal name... exclud[ing] those instances ...where there was a royal name accompanied by the statement 'given as a favour from the king, himself' (1979: 94).¹⁵⁷ While

¹⁵⁴ A late Predynastic serpentine jar with the name of Amenhotep III is a more extreme example (von Droste zu Hülshoff and Schlick-Nolte 1984: Ae:1, 1).

¹⁵⁵ The Reneferef corpus had two vessels inscribed with the name of Menkauhor, interpreted as a gift to Reneferef's funerary cult by one of his successors (Vlčková 2006: 91).

¹⁵⁶ Reisner notes that stone vessels from the funerary monuments of the latter two kings were never published by Borchardt (Reisner 1931a: 201).

¹⁵⁷ Several exceptions are a travertine jar from Edfu with the name of Teti from an unnamed tomb (Bruyère 1937: 35, pl. 17); a jar with Teti's name from an unnamed Matmar grave (Brunton 1948: pl. 38, Grave 3243.8); a jar with Pepi II's name from a grave at Qau (Brunton 1927: 30, pl. 26) and travertine jars commemorating the *sed* festival of Pepy I from the tomb of an official at 'Ayn Asil (Minault-Gout et al. 1992: 81-2). Perhaps this phenomenon became more common in the 6th Dynasty with a general weakening of central control.

systematic excavation of as yet undiscovered OK tombs will yield more examples, the general absence of vessels inscribed only with royal names from non-royal contexts indicates that they were not intended for general circulation. As Schulman suggested, a 'royal name implies a royal provenance and a royal ownership... the vessel so inscribed came from a royal magazine or storehouse' (1979: 94).¹⁵⁸ Indeed, Sparks describes a cartouche on an object as an 'official statement' (2003: 46); they were thus reserved for royal use and exchange (2003: 44). For the recipient, the cartouche was an unreadable - yet unmistakable - marker of an Egyptian royal origin, along with the high quality of the vessel itself (Sparks 2003: 45).

A small number of 'signed' Egyptian stone vessels have been found in the third millennium Levant at Byblos and Ebla. These have appeared alongside significant quantities of uninscribed high quality Egyptian stone vessels. Sparks (2003) has canvassed the issues surrounding the transmission of this material at some length, suggesting that different explanations can be offered for their appearance, ranging from diplomatic gift, traded item as a container or in their own right, war booty, tribute, tomb robbing or other form of 'secondary distribution'. She argues that the context of such finds outside of Egypt offers clues as to the distribution mechanism; thus in the case of the third millennium BC, the ritual, royal tomb or palace context points to elite exchange, trade or diplomatic gift (Sparks 2003: 41-3). However not all of these vessels are found in-context and in several cases are found alongside much later material, giving rise to heirloom factor.

The heirloom value of Egyptian stone vessels, both in Egypt and elsewhere, means that they are difficult objects to use as strict chronological markers. As Brunton observed, 'stone vessels are not satisfactory; they are not sufficiently common; they were used and re-used in daily life and were buried only when worn out' (1927: 6).¹⁵⁹ Yet the durability of the materials with which they were made means that stone vessels survive well in the archaeological record, especially in the wetter climate of the Levant, when many other forms of less robust evidence have perished. The heirloom factor is ever-present and must be factored into any interpretive framework where the archaeological evidence involves Egyptian stone vessels, or other exotic manufactured items. The methodology used in the present work to identify these problematic pieces is described in Ch. 1.4, and this issue is further discussed below.

¹⁵⁸ And was inscribed in a royal workshop (Vlčková 2006: 92).

¹⁵⁹ The 6th Dynasty tomb of Ima-pepy in the Dakhla Oasis shows that this is true even for the burial equipment of officials on the periphery of Egypt (Minault-Gout et al. 1992: 110, 112-3, nos 1878, 1816-7).

8.2.2. Egyptian copies of foreign shapes

Stone vessel production centres were located in Egypt, Crete and Mesopotamia (Reisner 1931b; Warren 1969; Potts 1989). In Canaan, a large-scale fine stone vessel working industry did not arrive until the second millennium BC, and even then the technology focussed on working softer, locally available stone types (Sparks 1996: 56).¹⁶⁰ Hence, third millennium Egyptian stone vessels found in the Levant are easily identified owing to the combination of shape, material and technology. The exception is stone vessels found in Crete, about which considerable debate exists as to their Egyptian or local origins (Vercoutter 1954: 47-52; Warren 1969; Pomerance 1991; Lilyquist 1996; Warren 1995; Bevan 2003). Recent research has, however, shown that Egyptian and Cretan travertines have different strontium isotope ratios, which can be used to help identify the origin of travertines used for stone vessels found in Crete (Barbieri et al. 2002a and b).

From the ED, stone vessels for local consumption appear in a small number of shapes clearly imitating foreign ceramic vessels (Möllers and Scharff 1926: 39, pl. 23.206; Aston 1994: 124-5). Limited quantities of larger travertine one-handled jugs are known from 1st-2nd Dynasty tombs (Lacau and Lauer 1959: pl. 10; Aston 1994: 124-5), imitating Abydos Ware ceramic jars. Although the stone types are made in Egypt, they probably intended to magically provide for the deceased the exotic pine resins and vegetable oils contained in imported ceramic jugs (see Serpico and White 1996: 136-7; see also Ch. 2.3.7). Some illustrations of one-handled jars in Egyptian tombs also represent stone versions (Balcz 1934: fig. 118.1).

Travertine and limestone one-handled jugs were manufactured throughout the OK both as full-size and model vessels (Firth and Gunn 1926: 26, fig. 20:7; Lauer 1939: fig. 1, pls 13.2, 16.1-2, 17.12, 18.6; Reisner 1942: fig. 245; Reisner and Smith 1955: pl. 34a, 95-6; Aston 1994: 124-5, 133). Extant examples are relatively few in number; perhaps their small quantity means that such objects were highly prized by tomb robbers for their shape/material or contents.

Egyptian-made stone vessels in other foreign shapes are even rarer. A large travertine jar from the south Saqqara burial complex of Pepy II, so far without known parallel, imitates a Combed Ware jar (Jéquier 1936: fig. 6, top right). Schematic combing is shown by means of three groups of raised horizontal bands across the body, while the king's name and titles are incised just below the neck. The jar was found with a collection of other large quality travertine vessels of a different shape, and each bearing the name and titles of

¹⁶⁰ A class of locally made stone vessels is known in Canaan during the third millennium BC, but these are generally crudely-shaped and made of very soft stones: see for example the stone dish from Tel Halif (Lahav) Object 1084 from Str. XIVd published in <http://www.cobb.msstate.edu/dignew/FieldI/htmls/A8.htm>

the king incised horizontally and vertically over the surface. What is possibly a model 5th Dynasty Combed Ware jar came from Giza Tomb G 4733E (Reisner and Smith 1955: 98, fig. 144).

A small quantity of other Egyptian copies of foreign shapes is known, but not in Egypt. This is discussed below.

8.2.3. Egyptian stone vessels in Canaan and their significance

Egyptian stone vessels appear at a range of EB III sites in Canaan, although their contexts differ. They could have arrived centuries earlier as heirlooms, or though direct or down-the-line exchange with Egypt. War booty via Egypt seems remote. It is possible that they were acquired as a result of military activity from other EB III cities, but again this cannot be proved. When seen in the context of other Egyptian material in Canaan, their role as trade items or elite gift seems far more likely. Moreover, the contexts of many stone vessel fragments in Canaan is paralleled by the find spots of the stone vessels from Byblos and Ebla, thus suggesting that these, too, were a form of royal gift exchange, arriving via elite contact with Egypt. None of the vessel fragments found in Canaan were inscribed.

The precise time of arrival is, however, a matter of controversy (Amiran 1970a). For many years the Ai vessels in particular underpinned the argument for OK connections with the region (Figs 22-3) (Hennessy 1967: 69-74; Callaway 1972; 1978). Problematically, the vessels do not represent a homogenous group from the latter part of the 1st Dynasty (*contra* Amiran 1970a: 179). A number of types have long date ranges, with some scholars placing the group as a whole not later than the 3rd Dynasty (e.g. de Vaux 1971: 232). Indeed, the ledge-rimmed bowl [143] (Fig. 23) is almost certainly of 3rd Dynasty date. The stone waterskin [136-7] (Fig. 22) may belong to the late 1st Dynasty, but the best Egyptian parallel was poorly stratified, and a similar travertine type was found in the Step Pyramid (Firth and Quibell 1936: pl. 94.4). The cylinder jar [135] (Fig. 22) is too generic in shape to be of value, but the relatively thick rim and walls indicate a jar early in the sequence. For the bowls [139-42] (Fig. 23), incised circles on the interior are normally associated with the ED era and continue into the 3rd Dynasty (Spencer 1980: 18). Bowls bearing a recurved rim with a flat inner edge are also more common in the late 1st-2nd Dynasty (Spencer 1980: 18), suggesting a similar date for [139-42]. On this basis, one cannot say with certainty that *all* the vessels arrived at the same time towards the second half of the 1st Dynasty, as Amiran suggests. Moreover, as we have seen, such vessels could have come from stone vessel repositories, where older vessels were kept for a considerable period of time (Reisner 1931a: 180, 199, 201).

However, the general impression of the group as a whole suggests that the vessels date to the 1st-3rd Dynasties and certainly no later, making them heirlooms in their EB IIIB contexts at Ai. They appear to have belonged to the

temple's cult equipment, perhaps used in the presentation of offerings; indeed, their position on the Sanctuary floor indicates the vessels were still in use at the time of the temple's destruction (Amiran 1972: 11). This may illustrate 'the tendency for temple holdings to be kept within the god's precinct, long after their dedication, even when broken' (Potts 1989: 126).

Amiran believed that the zoomorphic vessel [136-7] (Fig. 22) symbolised the 'Bilulu aspect of the Dumuzi myth', which saw the goddess turned into a waterskin (1972: 13). She later identified the vessel with a Canaanite Rain goddess (Amiran 1989). The specific role of this vessel in the Ai temple cult is not known, although Amiran's suggestion of an association with a rain deity is appealing (Amiran 1989).

Egyptian vessels from the Ba'alat Gebal complex [150-4] (Fig. 25) provide an important parallel for the appearance of Egyptian stone vessels in the cultic centre at Ai. However, as no direct religious association between the temples or deities in Canaan and Egypt can be proven, the vessels cannot be described as representing Egyptian offerings to the local cults (*contra* Amiran 1970a; de Vaux 1971: 235). Yet the fact that some of the vessels, including the zoomorphic vessel, are Egyptian-made with strong foreign elements suggests that they were given or even manufactured with the foreign recipients in mind. For example, Amiran rightly suggests that the segmented jar with a vestigial handle [134] (Fig. 22) found in the Ai Sanctuary is an Egyptian copy of an EB II Canaanite ceramic vessel (Amiran 1970a: 172; 1972: 13).¹⁶¹ From Tel Yarmuth, the shape of the green lapilly tuff fragment [128] (Fig. 21, Pl. 15) is unknown in Egyptian pottery, but known from EB II-III ceramics. The unusual Egyptian stone could place the vessel in the ED, but the absence of any Egyptian parallels for the shape pre-dating the 3rd Dynasty points to this later date. The closest stone parallel is the bowl from Ai [143] (Fig. 23), which Amiran describes as an Egyptian imitation of a Canaanite type (Amiran 1970a: 177).

Like the Ebla corpus, the majority of the Ai vessels are bowls or platters (six of the nine vessels), not closed containers, which would rule out the commodities trade as the reason for their presence, unless the vessels themselves were the commodity. They may have arrived at different times during the 1st-3rd Dynasty and were, as Amiran suggested, transferred to the later temple and re-used. However, it seems plausible that the travertine bowls arrived together, given the homogenous nature of the group in size, shape and material.

The fragmentary state of the vessels from Tel Yarmuth [126-33] (Figs 19-21) indicates that the vessels 'had ... gone out of use by the time of the contexts (sic)' (Warren 1991: 296). Like the Ai corpus, where the shape could be determined, half of the fragments in the EB III deposits belonged to bowls (four out of eight in total). This indicates again vessels exchanged in their own

¹⁶¹ The segmented design is, however, an Egyptian innovation.

right for possible use as offering dishes or tableware.¹⁶² The stone vessels appear in different sectors, unlike the EB II when they were largely concentrated near the 'White Building' area. In the EB III, some were found near this structure [128-9] (Figs 20-1) but others came from Palace B [126-7, 133] and the Acropolis [131] (Fig. 21). No inscriptions remain, and the number is small relative to the quantities unearthed at Byblos and Ebla. This suggests either the accident of discovery, the removal of similar material in antiquity, or that Egypt's relationship with the ruling elites of the EB II-III cities in southern Canaan was less important than links to the north, resulting in fewer gifts. It is also possible that the material from Tel Yarmuth represents the remnants of earlier imports from the latter part of the ED-3rd Dynasty, which would link them more directly to the Ai vessels and thus elite Egyptian contact with Canaan during that era.

Ai and Tel Yarmuth were the largest EB II-III centres in southern Canaan, whose elites must have ranked as some of the most important in the region whom the Egyptian court thought important enough to send offerings, precious trade items or gifts 'made to order' (de Vaux 1971: 235; Rast 1980: 11; Ben-Tor 1986: 18; Mazar 1992: 136, Sowada n.d.). Gifts of this kind may have been linked to commodity exchange (de Vaux 1971: 235). The rarity of these vessels in the region added value by virtue of their exoticism. As a form of status display, the vessels served to enhance the prestige of the elites.

At Bab edh-Dhra, the context of [119] (Fig. 20), from the town site, does not signal any particular exchange mechanism. The same can be said for [123] (Fig. 20) from Tel Erani. However, Bab edh-Dhra's important role in the Feinan copper trade provided the rationale for Egyptian/Asiatic exchange in the region (Ch. 7.2.2).

8.2.4. Egyptian stone vessels at Byblos and their significance

The in-context Egyptian stone vessels from Byblos form an unusual group. They were found in three different locations, with the majority of 'in-context' vessels excavated from an elite residence or palace, Building XXV [156-74] (Figs 25-9) (Saghieh 1983: 36-7). Of these, the earliest 'signed' stone vessel dates to the reign of Sneferu or Khufu [157] (Fig. 25), but it was found alongside ED material [163] (Fig. 28), vessel fragments bearing the name of Pepy I or II [158] (Fig. 26) and non-Egyptian stone vessel fragments. As a result, the earlier types cannot be taken as definitive proof of official contact with Byblos during the ED or early OK, as they may have arrived at the site through tomb robbing or as a later exchange item or gift. However, the sea-borne heavy timber trade had begun in the 1st Dynasty so such objects may have arrived in context (see Chs 2 and 7.2.7). The stone vessel deposit also helps to give a terminus date to the Saghieh's

¹⁶² All the vessels may have originally served a cultic purpose.

Phase KIV destruction level at Byblos, which could not have happened before the reign of Pepy I or II.

A range of stone types is present in the corpus, with travertine the most common. The shapes also vary, with the majority comprising open types such as ornamental vessels, bowls, models, offering tables or platters, rather than jars which might have been used as containers (Bevan 2004; on this, see Potts 1989:146). A number were also inscribed with names, titles or designs associated with royalty, with names present including Hetepheres [157] (Fig. 25), Unas [151] (Fig. 25), Niuserre [152] (Fig. 25) and Pepy I or II [158] (Fig. 26). These vessels, in addition to those incised with decorative elements such as wings or lotuses that accompanied king's names [159, 160, 162] (Figs 26-7), should be associated with an Egyptian royal source and as such were probably state-to-state presents or exchange items (Schulman 1979; Sparks 2003). No royal names from the 3rd Dynasty have been found at Byblos on stone vessels either in- or out-of-context (Saghieh 1983: 106).


In the Phase H of the Ba'alat Gebal temple (Building XL) dated to the MBA, Montet found Egyptian stone vessels that were also out-of-context (Appendix I, Figs 34-5) (Montet 1928: 62-83, pls 39, 47-9). These fragments all had signs of burning, which Saghieh identified as evidence of the Phase KIV destruction and thus belonging to the late OK temple equipment (Saghieh 1983: 42-5). If this is accepted, the group adds the name of Menkaure to the list of kings represented and increases the number of vessels associated with Pepy I and II (App. I.1, Fig. 34). As with vessels from Building XXV, they range in date from the ED period to the FIP-early MK. As Saghieh suggests, some may be 're-used heirlooms' from the earlier temple phase (1983: 45). This is a plausible suggestion. However, the question of their original context remains a thorny one for the interpretation of the stone vessels as evidence of OK Egypt's relationship with Byblos and the local cult in particular.

Elsewhere at Byblos, vessels naming Pepy I and II are well-represented but not in stratified deposits. Notwithstanding this problem, they are often attributed to Pepy I's close association with the cult of Hathor at Dendera and the parallel links of Hathor with the Ba'alat Gebal cult (Fischer 1968: 37-54; Chéhab 1969; Bleeker 1973: 72-4; Redford 1986a: 141; Redford 1992: 41-8; Espinel 2002). The names of many other kings are also present on these poorly stratified stone vessels. They are often regarded as gifts to the Byblos temple by Egyptian kings (Nelson 1934; Espinel 2002).

The problem with such propositions is twofold: the lack of secure contexts for most of the Egyptian stone vessels bearing royal names, and secondly, the lack of unambiguous evidence from Byblos and Egypt that links Hathor with the Ba'alat Gebal cult in the OK (Helck 1994; Wright 1988).

On the first point, the poor stratigraphy of excavations at Byblos is a major obstacle for any analysis of the meaning and significance of material.¹⁶³ Little *aegyptiaca* has been reliably found which can be discussed, and even this must be treated cautiously. Most scholars have, however, glossed over these difficulties, with the sheer quantity of the material apparently providing sufficient rationale for its serious consideration (e.g. Montet 1928; 1962; Nelson 1934; Ward 1963; 1964; Jidejian 1968; Goedicke 1966; 1978; Chéhab 1969; Helck 1971; 1994; more recently, Espinel 2002; Sparks 2003; Bevan 2003; 2004). The danger of accepting all the Egyptian objects at face value when constructing a picture of Egypt's relations with Byblos is obvious. A cautious approach is therefore required which must necessarily ignore many objects which underpin traditional interpretations. Lacovara used this same caution to good effect in his study of the OK stone vessels at Kerma. These objects had been used to help demonstrate Egyptian relations with Nubia until he showed that they were the product of later deposition, probably through robbing (Lacovara 1991).

When the data is carefully examined, there are very few OK stone vessels from the Ba'alat Gebal temple area (Building XL) from third millennium contexts (Table 6). Yet many Egyptian stone vessels and other objects have been found in later or questionable contexts (Bevan 2004: 117, fig. 6.4) but they cannot be used as reliable evidence for Egypt's contact with the city during the OK.

Secondly, the evidence for Egypt's relationship with the local cult, and of Hathor in particular, is ambiguous for this period (*contra* Espinel 2000). The epithet 'Hathor, Lady of Byblos' is not attested until later (Bleeker 1973: 72-3), and the third millennium data for it at Byblos is debatable. An inscribed travertine platter from a later level is inscribed with the epithet '...[Hathor mistress of] Byblos...' (Dunand 1939: 219, no. 3233, pl. 37.3233) but no royal name is mentioned. Both Dunand and Fischer regard the orthography of the inscription and form of the word 'Byblos' as belonging to the late OK (1939: 219; Fischer 1968: 38).¹⁶⁴ However, this slender out-of-context data is problematic, especially in the absence of a royal name. Fischer ascribes the fragment to Pepy I (1968: 39) on the basis of Montet's reading of part of Pepy's name on a very badly damaged stela from Byblos, which features the same rendering of the word  *Kbn* 'Byblos' (see Montet 1928: pl. 28.11).¹⁶⁵ Yet there is no consensus on the date of the stela (Stadelmann 1967: 5-7; Espinel 2002 and references), while crucial elements of the scene and text

¹⁶³ Owing to the many difficulties with the Byblos stratigraphy, the ARCANÉ Northern Levant Group will not use any material from the site in its deliberations on third millennium chronology (Thalman pers. comm. 14/10/07).

¹⁶⁴ The possibility of archaising elements is not considered by them.

¹⁶⁵ The supposed hieroglyphic signs suggesting the name of Pepy I or II cannot be seen in the published photo nor are they noted in Montet's drawing in 1928: 35, fig. 6.

are almost impossible to read. Other evidence from Byblos is likewise controversial and offers nothing to advance the debate (see Ch. 5.3.3).

The special connection of Pepy I with Hathor of Dendera is not disputed (see Fischer 1968) and many stone vessels bearing his name, and that of Pepy II, are known from later levels at Byblos. Hathor is even named in the epithet of Pepy I on the stone lid from Ebla [186] (Fig. 33). The association of Hathor with foreign lands is also seen early in the OK in her connection with turquoise mining in the Sinai, and she may have been linked with commodity procurement generally (Stadelmann 1967: 1-2). The interest of Pepy I in the 'foreign lands' is established by epithets from a series of pithemorphic stone vessels which are only known from the extremities of Egypt, including Byblos (but again in later deposits) (Espinel 2002: 112). Yet Hathor is not mentioned on these vessels. Rather than seeking a direct link between Hathor and the local Byblos cult on the basis of problematic data, in the OK the religious rationale (if any existed) was more likely linked with the deity Kai-tau of Negaw, associated with coniferous timbers, who is mentioned in the Pyramid Texts (Stadelmann 1967: 8; Helck 1994: 107).

Precisely *who* placed the vessels in the temple at Byblos, and when, is still a challenging question for which there is little evidence. With a much reduced group of in-context Egyptian objects at Byblos, the significance of this material takes on a different light. Foremost, the notion of an Egyptian colony is weakened (Wright 1988: 150, *contra* Ward 1963: 24). The large corpus of widely-dated material from Building XXV [156-75] (Figs 26-9), which includes the stem of a headrest [175] (Fig. 29) and non-Egyptian stone vessels, looks much more like a elite tableware (Bevan 2004: 119), a mercantile store, a 'hoard' of precious foreign objects, or a treasury in the fashion of Ebla Palace G (see below). The small group of objects from Building XL while recognising their Egyptian royal source, may have been deposited in the temple or its treasury by the local elites without the particular involvement of the Egyptians.

Yet the importance of the maritime 'Byblos-run' (Sethe 1908-9; Faulkner 1940: 3; Stager 1992: 41), and the city itself as an exchange entrepôt and geo-political centre is by no means underestimated. The textual and archaeological data, as illustrated by the number of stone vessels that enjoyed a royal provenance, demonstrate the special place of Byblos in Egypt's foreign policy. Aswan inscriptions show that officials visited Byblos as agents of the state (*Urk.* I: 140-1; Newberry 1938). Like the Egyptian presence at EB II Beth Yerah (Ch. 2.3.5), Egyptian emissaries or officials may have been stationed in the city to help procure commodities and facilitate Egypt's relationship with the region's ruling elites.¹⁶⁶ Political contact may have

¹⁶⁶ The 3rd or 4th Dynasty stone platter of Nefer-seshem-re (Montet 1962: 87; Ward 1964) and the plaque of Ta-sen (Dunand 1927: 98-9; Helck 1994:106) may thus have arrived through such means, although their contexts cannot be established with certainty.

produced a degree of cultural emulation, witnessed by the adoption of Egyptian architectural elements and ideas (Fig. 30a, Pl. 17b) as with the use of the cubit at Tel Yarmuth, and egyptianising objects and inscriptions.

8.2.5. Egyptian stone vessels at Ebla and their significance

Various explanations have been sought over the years for the large cache of Egyptian stone vessels from Ebla. They could be evidence of direct trade (Scandone Matthiae 1997: 416-7), war booty from an entrepôt like Byblos in contact with Egypt (Scandone Matthiae 1997: 416; see also Potts 1989: 124-5, 130-1, 133), direct elite gift exchange (Pinnock 1988: 110; Andrassy 1991: 135-6; Bevan 2004) or simply goods sent to Byblos or other towns that later arrived at Ebla as traded items (Pinnock 1984: 29; Weiss 1985: 170; Andrassy 1991: 136; Scandone Matthiae 1997: 416; Sparks 2003: 48).

The fragments, all high-quality OK stone vessels, span the early 4th to 6th Dynasties in both inscriptions and typology. The shapes are mainly bowls, with three broad types represented: carinated bowls (similar to ceramic Meydum bowls) **[177-8]** (Fig. 31), shallow lamps **[180]** (Fig. 32) and spouted bowls **[181-2]** (Fig. 32). Other forms appear but these are less common **[176, 179, 183-6]** (Figs 31-3). The stone types present are travertine and Chephren diorite (anorthosite gneiss). Only two were inscribed with royal names and titles: a quatrefoil lamp with the name of Khafre **[180]** (Fig. 32), and a travertine lid with the name of Pepy I **[186]** (Fig. 33), kings separated by over 250 years.

As the majority of vessels (85%) are bowls or lamps, this would preclude them as containers for perfumes, oils, unguents or other exotic products (Scandone Matthiae 1981: 125). Hence, the vessels evidently had some inherent value or prestige in their own right. Bevan suggests that their function at Ebla (as in Building XXV at Byblos) involved their use by elites as tableware or as a form of elite display (2004: 119). Moreover, the objects with royal inscriptions point to an origin from an official source, such as a temple magazine or royal storehouse (Schulman 1979: 94; Sparks 2003: 43-6). Indeed, the appearance of two inscribed vessels alongside such a significant quantity of high-quality hard-stone vessels points to a similar origin for the whole corpus (Bevan 2004: 119).

Whereas some stone vessels from Mesopotamia bear inscriptions describing them as war booty (Potts 1989), none of the Egyptian vessels at Ebla bear any such texts. Perhaps they represent the fruits of Eblite military activity against a city in direct or indirect contact with Egypt, such as Byblos or Ugarit, but military action against those cities is not attested in any Eblite textual material (Pettinato 1991: 128-31). Moreover, unlike Egyptian vessels at Ai, none were found in the Ebla cult centre. Rather, they were discovered in Palace G, in a series of closely related contexts that were sealed by a destruction level attributed to Sargon of Akkad (c. 2350 BC) (Milano 1995:

1228).¹⁶⁷ The findspots belong to a common storage facility within the confines of the royal treasury, supporting the contention that they were royal acquisitions. These chambers were repositories for the archive, special gifts, treasures, trade goods or valuable items acquired by the king and his predecessors, in a city where trade and exchange was largely state-based (Pettinato 1991: 44, 51, 88-9; Milano 1995).

As with the Byblos corpus, the Ebla group spans a wide chronological period. Scandone Matthiae doubted whether the vessels arrived at different times on the basis that Ebla was not a major city during the 4th Dynasty (1997: 416). More recent research disputes this, indicating that 'Ebla was probably a politically meaningful centre by 2500 BC, the age when Khafre was reigning in Egypt' (Scandone Matthiae 1997: 426 n. 1). It is possible that the 4th Dynasty Egyptian court was sufficiently aware of Ebla's importance as an entrepôt for silver and lapis lazuli to warrant establishing a relationship with its rulers. Thus the inscribed lamp **[180]** (Fig. 32) would be consistent with elite gift exchange in the 4th Dynasty (Andrassy 1991: 135-6). However, the nature of the context is such that one cannot determine if the vessels arrived at once or over long period of time, and were later collected and stored in the Palace (Scandone Matthiae 1981: 126).

Ebla is not mentioned in any OK Egyptian texts. On the other hand, the term *DUki DUki* in the Ebla texts may mean 'Two Lands', an OK term for Upper and Lower Egypt (Pettinato 1991: 128). Given the importance of Ebla during the third millennium, the proposition that the stone vessels were a direct Egyptian gift or diplomatic exchange in return for luxury products is likely (Pinnock 1988: 110). They probably found their way to Ebla in the hands of Egyptian officials (Scandone Matthiae 1981: 126; Pettinato 1991: 113), who exchanged lapis lazuli and silver in return for stone vessels and other commodities.

Caubet suggested that the presence of ED and OK stone vessel fragments at Ras Shamra indicated that vessels destined for Ebla, along with other products from Egypt, passed through the port (Caubet 1991: 208). Ugarit is also mentioned in Ebla texts (Pinnock 1984: 30; see also Scandone Matthiae 1981: 127). However, these fragments all occur in Late Bronze Age deposits, and thus are not proof of direct contact with Egypt in the third millennium BC. Nevertheless, as ceramics with origins in the northern Levant suggest **[19, 55]**, Egypt may have used Ugarit (via Byblos) to service connections with northern Syria and beyond (Matthiae 1988: 79).

¹⁶⁷ Potts notes that Naram-Sin took stone vessels as war booty from other vanquished towns (Potts 1989: 130-1, 133), yet these Egyptian stone examples seemed to have escaped the attention of potential conquerors. To the knowledge of the writer, no Egyptian stone vessels are known in ED II-III or Akkadian levels in southern Mesopotamia.

8.2.6. Egyptian stone vessels in Crete and their significance

A significant number of Egyptian Predynastic, ED and OK stone vessels or fragments thereof are known from Crete but most are unstratified, found in later or mixed contexts or cannot be located for further study (Schulman 1979: 85; Lambrou-Phillipson 1990: 51). As we have seen from other sites in the eastern Mediterranean, it cannot be assumed that OK material found in later contexts arrived during the third millennium BC (*contra* Bevan 2004). Moreover, there is no literary or archaeological evidence on the Egyptian side for direct contacts with (or even knowledge of) Crete during this period.¹⁶⁸ Only an obsidian vessel fragment [189] and a faience beaker [190] (Fig. 33) are identified as pieces of genuine in-context of *aegyptiaca*.¹⁶⁹

Aside from these examples, for a long time scholars have questioned another stone vessel class in Pre-Palatial Crete which at first glance seems to be Egyptian but bears some quirky variations. It is known that a Cretan stone vessel manufacturing industry appeared in the EM IIA period (Warren 1969; Bevan 2003; 2004 and references), a tradition that produced vessels distinctly different to those from Egypt. Yet during the EM IIB-MM II period, locally produced vessels are found in tombs at Mochlos and the Mesara region which appear to imitate Egyptian prototypes (Warren and Hankey 1989: 125-7; Phillips 1991a; 1991b; Bevan 2003; 2004). Using local stones that mimic Chephren diorite and Egyptian travertine, these are primarily miniature collared jars and cylindrical jars with splayed bases, resembling well-known types from the 6th Dynasty and FIP (Phillips 1991a; 1991b; Bevan 2003: 60-1; 2004: 112). The Mochlos findspot for several of these pieces is described as significant, owing to the role of this site as a possible 'point of contact for early trading ventures' for ships from the east (Branigan 1991: 101; Bevan 2004: 113).

Parallels to Egyptian types are compelling, yet no actual in-context Egyptian examples have been found in EM II-III deposits. Actual Egyptian vessels of this shape have been found in later contexts on Crete, but again the connection to the third millennium is distant (Phillips 1991b: Nos 117, 183, 258). While this is not a strong argument against the direct imitation of Egyptian prototypes, one must allow for a degree of local innovation, particularly where simple shapes are involved (Phillips 1991b). Reisner

¹⁶⁸ The *Admonitions of Ipuwer* mention 'oil from as far as Crete [Keftiu]' (Lichtheim 1973: 152), but cannot be taken to represent the historical situation of the FIP, but rather a romanticised historical fiction of the MK (Lichtheim 1975: 149).

¹⁶⁹ Bevan suggests that a series of Egyptian Chephren diorite bowls found unstratified and in MM III Knossos could be associated with the same elite exchange mechanism which saw similar vessels deposited at EB IV Ebla (2004: 115-9). While a tantalising suggestion, the widespread diffusion of Egyptian stone vessels in later phases throughout the Near East mitigates against making Crete a special case.

also noted that similar objects from separate geographical regions need not be the result of cultural contact or influence (1931b). Less plausible is the possible Cretan adoption of Egyptian uses for such vessels (Bevan 2004: 113), particularly if Egyptian objects are transferred via down-the-line exchange mechanisms divorced from their donors and origins.

This said, the circumstantial evidence for some form of down-the-line Cretan exchange in Egyptian *exotica* is compelling, particularly for the late OK and the FIP. It is possible that a small number of Egyptian stone vessels arrived and were copied by craftsmen, yet not themselves preserved in the archaeological record (Bevan 2003; 2004). This exchange may have included small amulets and raw materials such as ivory inspiring local craftsmen to adapt Egyptian forms and ideas to local tastes (e.g. Fig. 33a) (Phillips 1996: 464). This idea would be strengthened with the discovery of actual Egyptian stone vessels and other objects in relevant contexts.¹⁷⁰

That the Egyptians themselves were involved this exchange, even with elites at Knossos is unlikely, given their focus on the Levant and the absence of reciprocal in-context Cretan material in Egypt.¹⁷¹ Moreover, the material on Crete is mostly small items or raw materials, small-scale *exotica*, not lending itself to an interpretation of elite exchange as with Ebla, Byblos or EB II-III sites in Canaan (Phillips 1996: 466). The Egyptian material arrived sporadically on Crete's northeastern coast, possibly at Mochlos, through down-the-line maritime networks which touched on the northern coast of Cyprus from the Levant (Negbi 1972; Phillips 1996). This route probably resulted in small quantities of *aegyptiaca* also finding its way onto Cyprus [188] (Fig. 33) (see Ch. 5.9).¹⁷² The eastern Mediterranean sea-route is known to have been anti-clockwise in the Bronze Age which made Egypt a logical port of call from Crete back to the Levant (McGrail 1991; Lambrou-Phillipson 1991; Bevan 2003 and references). However, to date there is no evidence for this route in the third millennium BC.

¹⁷⁰ Lambrou-Phillipson is of the view that most, if not all, of the Egyptian objects in EM deposits are out-of-context and are thus of no value in even establishing a down-the-line exchange in *aegyptiaca* (1990: 150). I would agree with this statement.

¹⁷¹ Phillips suggests that products Egypt sourced from Crete (*if* any reciprocal trade was involved) were probably perishables such as 'olive and other oils, unguents and perfumes, medicines, aromatic herbs and spices, wine, honey, 'exotic' foodsuffs, resins, hides, multicoloured woven cloths like wool, dyestuffs and other raw materials, possibly oak and cypress wood' - 1996: 464. On available evidence, a reciprocal trade is unlikely.

¹⁷² In discussing the unusual travertine stone bowl from Vasilia Tomb 103 [188] (Fig. 33), Stewart noted that it was 'such a remarkable site that a quantity of imported stone objects would not be a surprise' (1962: 274).

8.3. Stone palettes

8.3.1. The stone palette in Egypt

The stone palette has a long history in Egypt and North Africa as a whole, dating back to Neolithic times (Kroeper 1996: 70). As early as the Badarian Period, simple long rectangular palettes were fashioned of siltstone for grinding mineral pigments (Brunton and Caton-Thompson 1928: 30-1, pl. 21). Palettes of various shapes were common burial items in Egyptian graves of the fourth and early third millennium BC (Kroeper 1996). Also found more rarely in settlements, they were used to grind mineral pigments such as galena, malachite and haematite. Wear marks and pigment traces show that many were employed on a regular basis prior to burial. In particular, galena (kohl) was used as a medicinal and cosmetic preparation for the eyes by both men and women (Needler 1984: 319-20).

The palette underwent a range of morphological changes during the fourth millennium BC. By the Naqada IIIB Period, a form of rectangular siltstone palette less than 1cm thick with incised lines around the edge was more common (Petrie 1914: pl. 24.95, 98; Kroeper 1996: 74-9, 81-3, figs 3-5, 8). Many feature a drilled hole at the top (Petrie et al. 1913: pl. 29.5 and 26). They appear at sites such as Minshat Abu Omar (Kroeper 1988: fig. 154-5) and Tarkhan (Petrie 1914: pl. 24.90r, 24.93d, 24.94g). By the 1st Dynasty, plain siltstone palettes replaced incised types (Petrie 1901: pl. 38.53; Petrie 1902: pl. 40.47-8; Emery 1939: 65, fig. 49.4; 1958:83, pl. 101b; Klasens 1958: 54, fig. 21.5, pl. 26, Cat No. 28; Kroeper 1996: 79, figs 6-8).

Egyptian palettes are usually made of siltstone, a material quarried near the Wadi Hammamat (Aston 1994: 31-2). Palettes in other stones such as quartzite, banded slate and limestone are found in A-Group Nubia (Nordström 1972: 120-1, pl. 191; Kroeper 1996: 70). Banded pink limestone, white limestone, 'alabaster', and diorite palettes are also known from the Fayum and Mostagedda, but these belong to the early fourth millennium BC and earlier (Caton-Thompson and Gardiner 1934: 32-3, pl. 12.22, 24-9; Brunton 1937: pl. 13.19-20, 23-4, pl. 22.17-20). By the end of the 2nd Dynasty, simple palettes had largely disappeared from the archaeological record (Kroeper 1996: 72), although this may be due to our poor understanding of the archaeological repertoire of this era. A quartzite rectangular palette was found in a 2nd or 3rd Dynasty Saqqara grave (Macramallah 1940: 36-7, fig. 29.34).

Hoffman notes the importance of the Egyptian palette, along with the mace, as an object that came to symbolise kingly power and authority (Hoffman 1984: 260; Hassan 1988: 173; Baines 1989: 476-7). Monumental palettes like the Narmer Palette and other elaborately carved siltstone examples emerge as an avenue of royal display. Whether this heightened the importance of more ordinary palettes is not known, but certainly by this

time the palette generally had acquired a 'ritualistic or magical connotation' (Shaw and Nicholson 2002: 218).

Baines suggests that 'the later disappearance of cosmetic palettes might relate to religious meanings of cosmetics, which were made of valuable ores from the Eastern Desert and could have been restricted to certain groups of people or gods' (1989: 477). Very few have been found in later graves of the third millennium, but as the Egyptians did not abandon the practice of using galena, some sort of grinding surface was undoubtedly required for pigments (Baines 1989: 477). Needler suggests that palettes were simply replaced by rectangular 'mortars' with bevelled edges and other more elaborate palette forms (Needler 1984: 327), but again these occur infrequently in the archaeological record. Perhaps the palette simply became less fashionable as a burial item and the systematic excavation of OK settlements will unearth the continuing use of palettes in domestic situations.¹⁷³

Palettes have been recovered from OK sites but in small quantities. From Elephantine, a fragment of a 1st-2nd Dynasty rectangular slate palette was found in a 5th Dynasty temple deposit (No. 7957a). This context contained other ED items in addition to later objects (Dreyer 1986: 137, pl. 46, no. 365). Similar votive deposits with mixed, but predominantly earlier material are also known from Hierakonpolis, Abydos and Tell Ibrahim Awad (Quibell 1900; Quibell and Green 1902; Kemp 1968; Dreyer 1986; van Haarlem 1995; Eigner 2002). At Abydos, plain and incised palettes were found in the Osiris/Khenti-amentiu temple/town area, but the stratigraphic contexts are unclear (Petrie 1902: pl. 50.40, 52, 62 and 70).

Palettes are also known from other OK sites. Reisner reported rectangular palettes of both slate, diorite and granite from 3rd, 4th and 5th-6th Dynasty graves at Naga el-Deir (Reisner 1932: 155, 159, fig. 58 and 417, 209, fig. 114, no. N547-9). Two of these were very worn. Another slate palette was reported from a 3rd Dynasty grave at Elkab (Quibell 1989: 8). Reisner believed that, although they ceased by the 3rd Dynasty, 'sporadic examples [of slate palette were] known even as late as Dynasty VI', and palette use continued in Nubia until the Hyksos Period (Reisner 1932: 155).¹⁷⁴ Presumably these examples from Naga el-Deir were included in his assessment, but other evidence is hard to find. Palettes were not evidently part of the standard burial equipment of the time. In reliefs from the Mortuary Temple of Sahure, a plain rectangular cosmetic palette is probably illustrated in a scene depicting the anointing of oxen (Borchardt 1910-3: 57, pl. 47, top row, Rast and Schaub 1989: 455). While the schematic representation of the palette may mislead the viewer as to its actual form and decoration, this illustration does suggest that

¹⁷³ For example, palettes and palette fragments were found in the EB I settlement at Maadi, but rarely in the burials (Kroeper 1996: 70).

¹⁷⁴ Square, rectangular and diamond-shaped palettes of quartzite, porphyry and breccia are known from ED Nubia (Reisner 1910: 330-1, pl. 63c).

such objects still had a role and function, although the *floruit* of the type was earlier. This may account for the presence of palettes in Egyptian ritual deposits noted above, and the limited appearance of other examples.

8.3.2. Egyptian and egyptianising stone palettes in Canaan

In Canaan, rectangular or square palettes (or 'plaques' as they are sometimes described in the literature) emerge in the Chalcolithic (Commége and Alon 2002: 147-8). As Hennessy noted, in function and shape they are close to Predynastic Egyptian types such that one can only regard the palette as part of a repertoire of shared regional objects and shapes (Hennessy 1967: 32; Ward 1963: 5-6 n. 3), perhaps belonging to an 'elite international style' (Commége and Alon 2002: 148).

Inadequate publication and description of stone types prevents a comprehensive assessment of the EB palette material. For example, examples from EB IB Tell Far'ah South are described respectively as 'chlorite schist or cupreous shale' and ground limestone (MacDonald et al. 1932: 17-8, pl. 28.7 and 11), but visual inspection would be required to confirm this identification. A nearly square palette from a fourth millennium context at Meser could be an Egyptian import (compare Dothan 1957: pl. 37A with Brunton and Caton-Thompson 1928: pl. 20.16, centre, pl. 21.9). Other EB palettes are known from Wadi Ghazze (unknown stone type - Kantor 1942: 174-6), Horvat Beter (Schaub and Rast 1989: 454; Brandl pers. comm. 31/3/00), Palmahim Quarry (limestone-possibly locally made Braun et al. 2001: 76, no. 7, fig. 4.7.3) and EB II Tel Erani (Yeivin 1961: pl. 5, bottom, second and third from right).¹⁷⁵ Such palettes may have Egyptian antecedents: a granite palette from Mishmar Ha-Negev (cited in Schaub and Rast 1989: 454) may be made from a stone imported from Egypt, or may be an actual import on the basis of a parallel from Naga el-Deir (Reisner 1932: 159, figs 58 and 417). At Jericho, Garstang found a palette fragment with incised lines in an EB I context, but apart from describing the stone as 'black' no other information is included (Garstang et al. 1936: 68, pl. 36.26; Andelkovic 1995: 51, fig. 20.1). This is probably Egyptian. Others of uncertain identification include a stone palette from EB IB Azor (Ben-Tor 1975: 28, pl. 21.3), a travertine example from Tell el-Far'ah North (de Vaux 1951: pl. 27b.4) and a trapezoidal 'diorite' palette from EB Ai (Marquet-Krause 1949: 60, pl. 38.482). The Tell Far'ah example is an unusual stone for a palette as no Egyptian travertine palettes

¹⁷⁵ Brandl states that the Tel Erani palettes are Egyptian (1989: 368, no. 7), but this is not the case. The writer examined these objects in 1996. One palette was made of a mica schist or chlorite schist, similar to the example from Bab edh-Dhra published in Schaub and Rast 1989: 455, fig. 261:6, also handled by the writer. The other was of local origin on the basis of stone type and manufacture.

are known to the writer.¹⁷⁶ Two stone palettes were found in EB II levels at Jericho, but again these are simply described as 'finely made' (Kenyon and Holland 1983: fig. 230.12-30). The shape and drilled hole is similar to Egyptian examples and these may indeed be Egyptian. Likewise, a plain rectangular palette with a drilled hole at the top found in Jericho Tomb D12 (mixed EB II-III) may be Egyptian but the publication is too schematic (Kenyon 1960: fig. 40.3).

A small number of Egyptian siltstone palettes can be identified in Canaan owing to the combination of material, shape and technology. Found mainly in EB IB tombs, they probably arrived via the exchange networks developed between the two regions during the second half of the fourth millennium BC. For example, at Azor, a Naqada II double bird head palette was found in a tomb (Ben-Tor 1975: 28, fig. 14.1, pl. 21.2; Brandl 1992: 450). At Gaza, a Naqada II fish-shaped palette was identified (Brandl 1992: 468, fig. 1.1). A fragment of an Egyptian palette with incised lines around the edge was found in Arad Stratum II (Amiran 1978a: 55, pl. 68.21). An Egyptian siltstone palette with incised lines and hatching around the edges was found in early EB II Tomb 40 at En Assawir; this type has good parallels from Naqada IIIA2-IIIC1 tombs at Tarkhan (Yannai 2002).

A further subset of palettes exists in the EB III that is less clearly Egyptian on the basis of style and stone type. Ben-Tor explains these as local Levantine examples by suggesting that during the EB I, Egyptian prototypes inspired local craftsmen to produce palette-like objects (Ben-Tor 1975: 28). However, as outlined above, palettes in Canaan do have an earlier indigenous history, so later palettes may not be the direct result of Egyptian prototypes.

Local EB III palettes from Canaan are all plain, rectangular palettes, many with holes drilled in the top centre. While stylistically related to Egyptian palettes, they are different. From Tel Yarmuth, a large rectangular palette of light grey quartzo-felspathic siltstone (Pl. 14b) (Cat. No. C.10157-1) was found on a floor in Area G, Locus 721 dated to the EB IIIB (de Miroschedji 1999; Sowada n.d.). The most likely source for the stone is the Eastern Desert in Egypt, Arabia, the southern Sinai Peninsula or the Sudan (Dr A. Shimron, Geological Survey of Israel pers. comm. 14/1/97). The writer could not find a single OK Egyptian parallel for this palette in either the stone or size, but the stone type would suggest an Egyptian import or at least local fabrication based on an imported raw material. A palette made of psammatic slate or mica schist (Cat No. C.12276-1) also found at Yarmuth, is made from a stone found in south central Sinai, or the Central and Eastern Desert of Egypt (Shimron

¹⁷⁶ But see the palettes of various materials from A-Group tombs in Nubia - Nordström 1972: pl. 191. An 'alabaster' palette was found in a 'Tasian' grave at Mostagedda, but as to whether this is travertine or gypsum is unknown: Kantor, cited by Schaub and Rast 1989: 455. Spencer notes an ED alabaster palette (Spencer 1980: 80, pl. 62.581).

pers. comm. 14/1/97; Sowada n.d.). Once again this may be imported, but no examples in Egypt are known. At Bab edh-Dhra, a number of simple rectangular palettes were recovered made of soft micaceous schist, the origin of which may be Egypt (Pl. 14a) (Aston 1994: 61-2; Schaub and Rast 1989: 453-6, figs 261.1-2, 4-6).¹⁷⁷

Identifying these particular palettes as Egyptian, egyptianising or even of local inspiration is difficult. As we have seen, palettes have a long local tradition in Canaan (Hennessy 1967: 32). Yet, these unusual examples occur at sites where Egyptian palettes have been found in EB III levels (Tel Yarmuth, Bab edh-Dhra, Tel Halif). At Bab edh-Dhra, Egyptian and locally made examples are known from tombs attesting to their importance as a luxury burial item [113-6] yet they are also known from the settlement [109, 111-2] (Fig. 18, Pl. 13) (Schaub and Rast 1989: 453-6; Sowada 2000). Hence, the palettes could be Egyptian, reflecting a wider variety of palette types in circulation during the OK but not widely known from tombs of the era.¹⁷⁸ On the other hand, EB II-III Canaanite craftsmen may have accessed regional and imported stones for palette production. Evidence for this is tantalising but by no means conclusive (see Ch. 7.3.1); an exchange in raw stones is certainly suggested in Mesopotamia (Potts 1989: 123). Further data from Egypt, in addition to petrographic analysis, is required before the origin of these apparently Egyptianising palette types from in Canaan can be settled.

8.3.3. Palettes and other manufactured goods as exchange items

As the corpus in Chapter 4 illustrates, Egyptian siltstone palettes have been found in good EB II-III contexts at Tel Yarmuth, Tel Halif, Beth Yerah, Bab edh-Dhra and Numeira. However, their findspots are much later than the general date of manufacture, suggesting that they might be heirlooms from earlier deposits at each site. As noted in the discussion above, very few of these palettes are found in EB IB contexts, synchronised with their Protodynastic *floruit*.

In the past, many such finds have been explained away as heirlooms or antiques (e.g. Seger 1989: 125). In Egypt, early palettes have also been found re-used in later contexts: fragments of a Predynastic palette were carved with a scene that included the cartouche of Queen Tiye (von Bothmer 1969). At Megiddo, a rectangular slate palette of probable ED date

¹⁷⁷ Aston notes the Egyptian use of mica schist, almost certainly from as yet undiscovered local sources (Aston 1994: 61-2).

¹⁷⁸ Small finds from the late OK settlement at 'Ayn Asil shows the variety of miscellaneous material that such sites yield. See the preliminary reports cited in Giddy 1987: 203-5. No palettes have yet been published among the small finds.

was found in Stratum VIIA, dating to the Iron IA, equivalent to the Egyptian 20th Dynasty (Loud 1948: pl. 196.1; Mazar 1992: 301).

In the Levant and the Aegean, out-of-context stone vessels and other objects are known, for example, from Tel Mevorakh (Brandl 1984: 61-62), Beth Shemesh (Grant 1931: pl. 47.3; Grant and Wright 1938: pl. 54.65), Beth Shean (Rowe 1940: 18, pl. 52A.6), Alalakh (Woolley 1955: 295, no. 9, pl. 81.9), Ugarit (Caubet 1991: 207-8, 240), Crete (Warren 1995: 8; Schulman 1979: 84-6) and elsewhere (Phillips 1992: 173-77).

The Egyptian palettes in EB Canaan offer another case in point. These appear in the region with a frequency and geographical spread suggesting more than just one-off finds (Jacobs 1996: 30-1). They were manufactured much earlier than their mostly well-dated EB III contexts. Many are in excellent condition, although showing signs of use by way of surface abrasion or staining. They may be heirlooms, particularly as similar palettes have been found in EB IB and EB II strata at Jericho and Arad, suggesting that the type was imported during their *floruit* in Egypt.

One possible explanation is that the palettes represent local Canaanite products based on Egyptian prototypes (Jacobs 1996: 130). However, the palettes are Egyptian on the basis of shape, decoration, material and technology and fit into the known repertoire of palettes from the Late Predynastic-ED Period.

Another explanation is that the palettes were robbed from Egyptian graves during the OK (*contra* Jacobs 1996: 127). The problem posed by the proliferation of objects from ancient tomb robbing affects almost every century of the Bronze Age in Egypt and the Levant and must be considered as a possibility when faced with seemingly out of context objects, even in elite contexts (Pomerance 1971; Phillips 1992). As the Ramesside Tomb Robbery Papyri show, objects of particular interest to robbers included gold and other precious jewellery with a metal content, amulets, metal vessels, ornaments, exotic woods such as cedar and ebony, oils, ivory, mirrors, textiles, unguents, perfumes, and their stone vessel containers (Phillips 1992: 163-5). These are high value objects, easily transported and disposed of.¹⁷⁹ Considerable pillaging of Egyptian burials took place during the Hyksos period and later, with the result that out- of-context OK stone vessels can be found at many sites in the eastern Mediterranean (Pomerance 1971; Brandl 1984: 62; Lacovara 1991: 118; Caubet 1991: 207-8, 240).

As the corpus of palettes from Bab edh-Dhra illustrates (Schaub and Rast 1989: 452-6; Sowada 2000), a local predilection for palettes in simple shapes possibly led to a preference for rectangular or square exotic imports from Egypt (Jacobs 1996: 127). In all likelihood many of the Egyptian palettes in

¹⁷⁹ Local villagers may have likewise removed objects of a more mundane nature from cemeteries; evidence for this practice was observed at the MK settlement of Kahun (Phillips 1992: 165-6).

EB III-IV contexts are heirlooms from an earlier era. Yet, small quantities of palettes may have been around in OK Egypt and were traded in Canaan.

Sabni's inscription shows that Egyptian officials in charge of trade and diplomatic missions took a range of Egyptian commodities and manufactured goods to exchange with local elites, including clothing and faience (*Urk.* I: 136.5). Another inscription from Harkhuf's tomb described how he returned to Egypt with throwsticks amongst other things (*Urk.* I: 126.17 to 127.1-3). Throwsticks were common in Egypt during the OK yet were still brought back to Egypt on trading missions. Egyptian palettes and other exotica found in Canaan should therefore be considered in the same light: an unusual but useful object in a quality stone unavailable in Canaan, exchanged by visiting Egyptian emissaries, and lent prestige by virtue of its Egyptian origins.

8.4. The problem of maceheads

Like palettes, stone maceheads have a long history in Egypt and the Levant, stretching back the Chalcolithic. Made of stone, ivory or copper, the pear-shaped macehead in particular had a wide distribution during the fourth millennium (Ward 1963: 4-5; Prag 1986: 66). While they were originally used as weapons, with time maceheads adopted a ceremonial/ritual function, with perhaps the best-known assortment coming from Nahal Mishmar (Gonen 1992: 66-71, pl. 11). The country of origin for the object is not known (Ward 1963: 4-5), with scholars variously suggesting Mesopotamia (Hennessy 1967: 33) and the Sudan (Ciałowicz 1989: 265).

Ciałowicz notes that by Naqada IID, Egyptian maceheads ceased to have a practical use, and later became 'symbols of power' (Ciałowicz 1989: 264; Hendrickx 1994: 51). Toward the end of the fourth millennium, the mace joined the palette as a symbol of royal power and authority (Hoffman 1984: 260; Baines 1989: 476-7). Curiously, like the palette, maceheads were not produced in any quantity by the ED, although the imagery of the king striking his enemies with a mace was a continuing image of royal domination that lasted throughout the Dynastic age (Hendrickx 1994: 51). Baines notes the royal 'appropriation' of maceheads and the palette but can offer no real explanation for their disappearance from the archaeological record (Baines 1989: 477).

For the EB II-III, sites in Canaan have yielded maceheads in a variety of stones. Examples from Megiddo (Loud 1948: pl. 270.2-9), Jericho (Kenyon 1960: fig. 66.4), Beth Shean (FitzGerald 1935: pl. 23-4) and Tell el-Far'ah North (in travertine: Reg. F.3897)¹⁸⁰ show that during first half of the third millennium, it was an enduring object in the region. Although we cannot trace these maceheads directly to Egyptian prototypes, the stones from which many are made suggest an Egyptian origin.

¹⁸⁰ *Tel el-Far'ah. Notes de Chantier 1958, 29/9/58.*

The stone type of many maceheads found in EB II-III excavations requires further scientific study, owing to the inadequacy of their descriptions in most publications. However, the writer has handled a number of maceheads from EB II-III sites that, on the basis of stone type and finish, speak of Egyptian production or an imported raw material at the very least. They may be heirlooms. The same is undoubtedly true of the EB IB, as a travertine pear-shaped macehead from EB IB Horvat 'Illin Tahtit, and a polished travertine macehead from Pella attests (Braun et al. 2001: 75-6; Bourke et al. 1994: 91-3, fig. 7.1).

At Bab edh-Dhra a number of maceheads from a variety of EB I to EB III contexts may be Egyptian (Braun 1993: 124; see also Ch. 4.4.3). A host of other maceheads were found in tomb and settlement contexts, made of materials variously described as 'alabaster' (Regs 752, 766, 1340) and other stones which have yet to be identified.¹⁸¹ An unfinished macehead was found at a probable EB IV site nearby (Rast and Schaub 1974: 13, pl. 11.2), suggesting that such objects were manufactured locally. Yet another from Charnel House A51 is described in the publication as 'polished granite' and may be imported from Egypt (Schaub and Rast 1989: 459, fig. 263.4).¹⁸² At Tell el-Hesi, limestone maceheads were also noted from the EB III settlement (Dahlberg and O'Connell 1989: 157), but again they are probably local rather than imported. Maceheads are also known from Phase K at Byblos but little studied (Dunand 1939: 311, no. 4161, 'white stone with black veins' [limestone?], pl. 143.4161).

At present, EB II-III maceheads are insufficiently studied and published to be of real value to the discussion. Nevertheless, the concept of the mace may have been employed as a power-fact in Canaan during the EB II-III, the result of this object's elite associations in Egypt. Quality Egyptian hard stones may have been imported for their manufacture, but this requires further study.

8.5. Items of personal adornment

Beads and amulets are some of the most common finds from archaeological sites, and yet one of the least studied artefact classes (Broeder and Skinner 1992: 135). Beads are important as a traded item because 'such goods ... point toward social exchange and the whole body of ideas, relationships, and even myths that often accompany exchange' (Hoffman 1979: 189).

In Crete, beads of faience, carnelian, amethyst and other stones are known from EM II and EM III sites which may be Egyptian. Few have been scientifically analysed and for the most part, quarry sources are poorly understood (on this, see Lilyquist 1996: 136-7). Faience, also made in

¹⁸¹ The identity of this stone as travertine or local gypsum has not been confirmed.

¹⁸² This object has not been seen by the writer.

Egypt, poses problems owing to the possible spread of this technology in the eastern Mediterranean, about which little is known.¹⁸³

Scientific techniques of analysis, such as non-destructive X-ray fluorescence, have been used to great effect to characterise the composition of OK faience pastes and glazes, and certain stones used for making beads (Kaczmarczyk and Hedges 1983: A78-90; Broeder and Skinner 1992). To the knowledge of the writer, no comparable work has been conducted on faience objects from Canaan to examine whether or not an EB III faience object is locally made or imported. Such studies would place the debate of an exchange in these items on a firmer footing.

8.5.1. Faience

Faience or frit-making making technologies make an early appearance in Egypt, with some of the earliest objects dating to Naqada I (Moorey 1994: 168; Friedman 1998: 15; Nicholson and Peltenburg 2000: 179). It was widely used throughout the fourth-third millennium and later for a myriad of objects ranging from statues to beads, amulets, vessels, tiles, inlay and other small items. Friedman suggests that it may have been a low-cost alternative to lapis lazuli and turquoise, although faience had an important symbolic meaning in its own right (1998: 15).

Scholars have not satisfactorily settled the question of where faience technology first appeared. Moorey preferred northern Mesopotamia, with 'the present weight of evidence [favouring] somewhere in Western Asia, probably Iran or Northern Mesopotamia with diffusion into Egypt to the west [and] the Indus region to the east' (Moorey 1994: 169, 172).

Foster favoured northern Syria and northern Mesopotamia, concurrently influencing the development of local Cretan faience working (Foster 1979: 56, 59). Faience beads appear in a wide range of third millennium sites across the eastern Mediterranean, including Cyprus (Peltenburg 1995), Crete (Warren 1995: 2; Phillips 1996: 463), Canaan and as far north as Troy (Peltenburg 1995: fig. 1), in varying quantities, shapes and contexts. Faience occurred in both Egypt and Mesopotamia but the technology could have been equally exported from either region to the other (Bianchi 1998: 23). These questions are far from settled; in addition, the nature of regional faience making technologies (apart from Egypt) is not widely understood (Moorey 1994: 182).

The case for faience as an exported Egyptian product is circumstantial, but compelling. The 6th Dynasty Aswan official Sabni refers to faience as a

¹⁸³ The terms 'faience' and 'frit' are often used interchangeably in archaeological reports to describe objects made with an artificial silica-based material. More correctly, the term frit should only be applied where the glaze has worn off, otherwise the term 'faience' or 'glazed composition' is more appropriate (Moorey 1994: 167).

product in his diplomatic caravan to Nubia (*Urk* I: 136.5-6). Egyptian faience may have been a commonly traded item in the Levant. However, on the current state of knowledge, ascribing an Egyptian origin for all faience in Canaan and elsewhere in the Levant is injudicious. Separating imported objects (regardless of the region from which it may have come) from a locally manufactured product is almost equally difficult. This being said, at least one faience object from Byblos is certainly Egyptian (Ch. 5.3.4).

To assist in this task, scholars have established a series of ‘tests’ for the presence of a local industry, including ‘product uniqueness, frequency of examples, technological idiosyncrasies and the presence of contemporary metalworking’ (Kaczmarczyk and Hedges 1983: 241; Harding cited in Peltenburg 1995: 36).

Based on these assumptions, faience beads from mid-third millennium Kissonerga, may be Syro/Palestinian imports (Foster 1979: 56-9; Peltenburg 1995: 41; Ch. 5.9). Likewise, faience (or the technology) from comparable phases in Crete may have originated in the northern Levant rather than Egypt. However, the faience cylindrical jar from Maronia Siteias [190] (Fig. 33) is almost certainly from Egypt originally, although a down-the-line exchange is the most likely means of arrival on the island.

On the above-mentioned criteria, faience found at many sites in Canaan would pass the ‘local’ test on the grounds of say, the presence of a local metal-working industry (e.g. Bab edh-Dhra), but fail on the grounds of frequency or product uniqueness. The proximity of southern Canaan to Egypt, along with the presence of well-established networks of communication during the EB III-IV, means that many faience objects may have originated in Egypt. The faience necklace from Tel Halif may be an import rather than a local product, perhaps included in a trading caravan like that of Sabni (Ch. 4.5.2). Such objects, easily transportable and regarded as unusual by a culture that may have had access to only rudimentary faience or frit-making technology, played an important role in social exchange mechanisms (Hoffman 1984: 189).

8.5.2. Beads, amulets and other trinkets

Carnelian beads appear in the archaeological record at a number of EB II-IV sites in barrel and simple disk shapes. To identify each of them as Egyptian is tricky, as often these objects are not available for further study and in any case the origin of non-Egyptian carnelian is by no means settled.

Carnelian is a mineral quartz, a ‘semi-transparent to translucent orange-red to brownish red or brownish-orange chalcedony’ (Broeder and Skinner 1992: 144). Known as *ḥrst* to the Egyptians (Aston 1994: 67), carnelian was used extensively in jewellery, inlay and even vessels from the Predynastic age onwards and is found in graves all over Egypt of people from a range of social strata (Aston et al. 2000: 26-7). In the OK, carnelian was widely used for

these purposes and is commonly found. The stone may have been used for its supposed 'therapeutic properties', in addition to warding off evil (Broeder and Skinner 1992: 144, 147).

Carnelian is found in pebble form in the Egyptian Eastern and Western Deserts from earliest times (Lucas 1962: 391; Aston et al. 2000: 27), more specifically in the desert region between the floodplain and the cliffs (Aston 1994: 67-8). Extensive deposits may have occurred in the Upper Egyptian Red Sea hills near Wadi Abu Gerida and Wadi Saga (Aston 1994: 68). Other sources are known in Anatolia, India, Western Arabia and Oman (Moorey 1994: 97). Carnelian is also known in Canaan. Broeder noted 'small pebbles of carnelian in the wadis of Jordan' but was otherwise unable to confirm the origin of carnelian from Bab edh-Dhra with certainty (Broeder pers. comm. 28/9/99).

Very little research has been conducted into the use, significance and distribution of carnelian in Egypt and the Levant. The primary work on Egyptian bead types is still largely that of Brunton (1928), although beads are still among the commonest of objects found in archaeological sites (Broeder and Skinner 1992: 135). Even less scientific analysis has been conducted on bead materials generally, with many archaeologists, most not schooled in geology, struggling to even correctly identify the precise material from which beads or other stone objects are made (Lilyquist 1996: 136). As Broeder's observation from the wadis of Jordan illustrates, local sources of carnelian cannot be ignored, but conclusive research is slender. The destructive nature of certain forms of analysis, combined with the need to remove objects to suitable laboratories far from the security of the archaeological site, means that finds are rarely tested.

Carnelian in EB II-III Canaan and earlier is often assumed to be Egyptian (Broeder and Skinner 1992: 144-6, 149). Carnelian beads are found in many EB III sites, but many are simple disk beads that are too generic to be of value typologically (see for example Callaway 1980: fig. 115.33). Barrel shapes are common in the OK, but likewise this type may have been manufactured across a wide geographical area during the EB III-IV. Such beads have been noted at Tel Yarmuth, Tel Halif and possibly Lachish.¹⁸⁴ Ultimately, further investigation of possible sources may reveal that some carnelian in Canaan used for bead making was obtained locally by simply scavenging desert wadis.

A carved amulet from Tel Halif [120] (Fig. 20) was made of a non-local stone and should be regarded as an Egyptian import. Likewise, the Egyptian cylinder seal from Bab edh-Dhra [117] (Fig. 19, Pl. 14) fits the pattern of Egyptian *exotica*.

¹⁸⁴ The bead corpora from Bab edh-Dhra and Tel Halif are yet to be published in detail, but on searching through the register of finds for these projects, the writer noted many beads of carnelian among the inventories.

A class of locally produced seals in an apparently egyptianising style were made of imported hippopotamus ivory (Phillips 1996: 460-1). Of interest is the appearance of a seal featuring a pair of crouching apes (baboons?) back-to-back on the underside (Fig. 33a). This scheme is not known in Egypt and is described by Phillips as a local development (1996: 460-1). This animal is not known in Crete but is used early in Egyptian iconography; its appearance on Cretan seals may be based on Egyptian prototypes arriving on the island via a down-the-line exchange.

8.6. Textiles, furniture and other objects

Identification of textiles, wood and basketry in the archaeological record is particularly difficult in wetter climates of the coastal Levant. More often than not, all that remains of basketry and textiles are fabric impressions and small fragments (see Adovasio and Andrews 1982; Ben-Tor et al. 1997: 21).

The bone comb from Ai [145] (Fig. 24) may be one such gift in a perishable material. Similar wooden combs have been found at Bab edh-Dhra (Adovasio and Andrews 1982: 62-6), but their identification as Egyptian is not possible without sampling the wood. However, the Ai comb was found alongside other Egyptian objects in the cult centre thus lending credence to the probability that this object is Egyptian. Likewise, the dagger handle [144] (Fig. 24) from the same context should be regarded as a similar type of present from Egypt. Such gifts are attested in the Ebla texts (Pettinato 1991: 246, 248-9, MEE no. 1, 1724).

The high quality of Egyptian linens, and hence its likely desirability as a traded commodity, is well-known.¹⁸⁵ Textile production was an important aspect of the Egyptian economy, and was also used as a form of making payment and storing wealth (Vogelsang-Eastwood 1993: 2-3; Roth 1994: 235-6; Vogelsang-Eastwood 2000: 293-4). It may have been a key Egyptian export during the OK to Byblos and elsewhere. Sabni took clothing to exchange on his expedition to Nubia (*Urk*. I: 135.5; Smith and Giddy 1985: 324), so it is possible that Egypt exported linen all over the Levant, but little remains in the archaeological or literary record.

Likewise, textile production and trade was also important to the Ebla economy. Textiles were used as a method of payment and formed a significant commodity for the palace administration (Pinnock 1984: 22-3; Archi 1987: 116; Pettinato 1991: 104, 247-50, e.g. MEE1, no. 700).

¹⁸⁵ See the 1st Dynasty linen shirt from Tarkhan (UC 2861Bi) and the 5th and 6th Dynasty garments from Deshasha (UC 31182 and UC 31183) all located in the Petrie Museum, University College London. Another fine linen garment from a 6th Dynasty tomb at Naga el-Deir is located in the Boston Museum of Fine Arts (Boston N.94.5 – Hall 1986: 15, 19-20).

Other perishable exports probably included papyrus but again no evidence exists (Montet 1939: 194).

Exotic goods such as furniture are also mentioned as items exchanged between elites in the Ebla texts (Pettinato 1991: 240, MEE1, no. 1781). The OK furniture pieces at Dorak, if they are to be believed, may represent such an example of the Egyptian court sending important pieces of furniture abroad to foreign rulers (Ch. 5.8). A box fitting of likely Egyptian origin (Fig. 30c) is known at Byblos and therefore belongs to this tradition.

The carved bone breast cones [146] (Fig. 24) found at Ai alongside other *aegyptiaca* are Egyptian imports and probably belonged to a bead net dress, as Hennessy originally suggested (1967: 71). At Byblos, the stem of an Egyptian headrest [175] (Fig. 29) was found in Phase KIV, along with Egyptian stone vessels. The inherent preciousness, quality of the craftsmanship or its curiosity factor may have attracted local elites to accept and retain it with the other items. Likewise, a class of chipped flint knives known from Byblos has good Egyptian parallels and these too may have a Nile Valley origin (e.g. see Dunand 1939: 355, 358, fig. 281, no. 5266).¹⁸⁶

8.7. Egyptian ceramics and influences on local ceramic production

To date, only one ceramic vessel of certain Egyptian origin has been identified in an EB III context [118] (Fig. 19). From Bab edh-Dhra, the best parallels are 5th Dynasty and thus its identity as such is in little doubt. Its shape, a round narrow-necked vessel capable of being sealed, suggests storage for a liquid commodity.

Unlike the EB IB, little work has been attempted on the issue of egyptianising ceramics in the EB II-III. Kantor points to shared ceramic shapes between Egypt and Canaan (1942: 174-77), but whether this represents a direct exchange of ideas or a regional *koine* of types is hard to detect. For example, large spouted vats and shallow platters with four stump legs appear in Canaan (de Miroschedji 1993: fig. 11; 1999: 13.1, 13.7), which are paralleled in OK forms (Reisner 1931a: 226, fig. 78.1, 78.8; Reisner and Smith 1955: 83, fig. 117). In addition, the use of a red burnished slip on pottery was widely used in the region for much of the third millennium.

In EB IB southern Canaan, the presence of Egyptian imports alongside egyptianised ceramics means that some scholars have been quick to suggest 'Egyptianising pottery made by Egyptians' resident at the site (e.g. Brandl 1992: 441-8; see Ch. 2). While the data points to this phenomenon in the EB IB, this conclusion is not suggested by the evidence in the EB III. Between the EB IB and the EB III, Egyptian pottery imports go from

¹⁸⁶ Lambrou-Phillipson notes a fragment of a probable Egyptian flint knife from an EM III-MM IA/IIB context at Knossos (1990: 221, no. 101, pl. 78).

considerable to almost nil. Identifiably Egyptian manufacturing techniques are harder to spot, particularly as the long period of Egyptian influence during the EB IB undoubtedly resulted in the adoption of some methods by local Canaanite craftsmen.

However, a class of local EB III flat-based cup with a flaring rim reveals Egyptian antecedents. It has been identified as a ceramic copy of an Egyptian stone vessel type by Schaub (cited in Dever 1973: 50), known in the ED and OK at Saqqara, Giza, Matmar and elsewhere (Reisner and Smith 1955: 94, fig. 138; van den Brink 1988: fig. 21.60; Aston 1994: 105, no. 37-8; Bermann 1999: 94, no. 29). A ceramic version also appeared in Egypt (Reisner and Smith 1955: 78, fig. 102).

The most coherent collection of such vessels comes from Sanctuary A at Ai (Fig. 44) (Marquet-Krause 1949: pl. 52 bottom row, pl. 53; Callaway 1972: 321-2, fig. 73, 76). The group comprises variations of the same cup shape made of local clays, with a number showing signs of use.¹⁸⁷ Blacking on the interior indicates that burning oil had been poured out or had caught alight. Other cups bear smoke patches on the surface, but none were affected in such a way as to suggest damage in a major conflagration.

Indeed, rather than seeking an Egyptian inspiration, Callaway linked them with the Khirbet Kerak cultures of the north (Callaway 1972: 304; Saghie 1983: 115-6). The shape is also known elsewhere in EB II-III Canaan (Hennessy 1967: 24), from the Kinneret tomb (Mazar et al. 1973: pl. 6.32), Beth Shean (FitzGerald 1935: pl. 9.25) and Jericho (Garstang 1932: pl. 3.4). Parallels from Byblos, both in form and context, are particularly compelling (Saghieh 1983: 115-6).

An Egyptian inspiration for the cups seems more plausible given the presence of imported Egyptian stone vessels and other objects. Probably these vessels, with an indirect Egyptian association, were invested with significance, thus helping elevate them to a special status.

Much debate has centred on the date of a group of egyptianising vessels from Stratum J at Megiddo (Joffe in Finkelstein et al. 2000: 161-85). Made of local clays, the use of chaff and other organic temper speaks of a deliberate attempt to imitate Egyptian clay preparation techniques (Finkelstein et al. 2000: 498-9). The shapes are best paralleled in the Egyptian pottery repertoire of the ED and the OK, but perhaps by a potter with an 'incomplete familiarity with the original Egyptian forms and technology' (Joffe in Finkelstein et al. 2000: 172-3; Finkelstein and Ussishkin 2006: 8). Uncertainty surrounding the stratigraphic position of

¹⁸⁷ Hennessy was not sure if they were Egyptian or locally produced (1967: 114, no. 27). The writer examined these vessels in the Israel Museum, the Hebrew University Museum (Mt Scopus) and the Rockefeller Museum during several trips to Jerusalem in 1995 and 1996. Where possible, a section through the fabric was examined under a 10x hand lens. Other vessels published by Marquet-Krause could not be located.

the vessels has also clouded assessments of whether the group belongs to the EB IB or the EB III (Finkelstein et al. 2000:586), however the excavators now believe that the corpus belongs to a sub-stratum dating to the EB IB rather than the EB III (Finkelstein and Ussishkin 2006: 18-9).

8.8 Architectural features

So-called Egyptian architectural features have been observed in the monumental buildings at several EB sites notably Ai, Tel Yarmuth, Megiddo, Beth Yerah and Byblos.

At Ai, the masonry construction of the EB II-IIIa citadel temple was used by Callaway (1978: 47), in combination with the other Egyptian objects at the site, to suggest that Ai was under Egyptian political or economic domination. He also claimed that King Djoser had a major influence on the EB IIIa city (1980: 306). A similar construction technique is also observed on the Phase KIII hypostyle temple at Byblos (Saghieh 1983: 120-1).

The attribution of these features to the 3rd Dynasty is unconvincing on three grounds. Firstly, the parallels from Egypt are weak; secondly, the existence of similar building techniques at both Ai and Byblos does not automatically point to Egypt as its source. Thirdly, there is little other evidence for Egyptian political engagement in the region during the 3rd Dynasty. Although stone vessels of possible 3rd Dynasty date have been found at Ai and Tel Yarmuth **[128-9, 143]**, their date is by no means certain. Moreover, at Byblos, 3rd Dynasty royal names have not been found amongst the extensive corpus of in- or out-of-context Egyptian stone vessels (although some of the vessels found in Building XXV could date to this era **[163, 173]**).

De Miroschedji does not stress the Egyptian connection (2001b) in the metrology of elite buildings at Yarmuth or Megiddo, but it is tempting to conclude that it was borrowed from elsewhere. Use of the Egyptian cubit in the Tel Yarmuth Palace B complex (c. 25th century BC/5th Dynasty) suggests the transmission of ideas with Egypt at an elite level, in addition to the objects found on the site. As the ceramic jar with incised hieroglyphs from Beth Yerah shows (Ch. 2.3.5), Egyptian agents were located abroad in the EB II at least, and it is possible that the cubit was introduced by such an official based at, or visiting, Tel Yarmuth in the EB III. Conversely, itinerant contact with Egyptian officials engaged in trading/diplomatic missions may have resulted in the adoption of certain forms of Egyptian administrative organisation, such as metrology.

Baines describes architecture in ED Egypt as ‘the chief form of more general [royal] display’, alongside writing and representational art (1989: 477). The same role for architecture as a form of royal or elite display can be ascribed to monumental and civic structures in the Levant but on a lesser

scale. However such structures and other power-facts operated on two levels. Firstly, they visually symbolised status and reinforced the reality of power and authority to those of lesser rank, and secondly, they operated as a display of power and status to external elites of comparable standing (Baines 1989; Bard 1992; Trigger 1993: 55-85). Hence, use of the cubit and internal buttressing only in Palace B at Yarmuth takes on additional significance. It was used specifically because of its association with Egyptian and northern elites. Use of the cubit would have been invisible to those without knowledge of it; using the Egyptian cubit was a subtle form of display to enhance status and prestige and demonstrate the acquisition of information or knowledge.

It should be noted, however, that use of the cubit for EB III monumental architecture in Canaan may have been more widespread than hitherto attested. Further work is required on the metrology of EB III civic buildings to understand if use of the cubit was widespread, but this is beyond the scope of this study (on this, see de Miroschedji 2001b).

At Beth Yerah, the so-called EB III granary was identified as an Egyptian inspiration (Pl. 16a) (Maisler 1952: 227-8; Currid 1986: 23-4). No major granaries are known from other EB III sites in Canaan against which to compare the Beth Yerah building. However, the presence of an Egyptian official at the site in the EB II means that a direct Egyptian inspiration for this structure is possible.

Saghieh points to the use of Egyptian architectural influences at the Ba'alat Gebal temple at Byblos in the use of the double façade and back rooms (1983: 56-7, 106, 121). As we have seen, these associations are non-existent, with better parallels to be found for the temple layout in Mesopotamia. The decorative elements in the shape of *uraei* (Fig. 30e, Pl. 17d), if they are to be associated with the Ba'alat Gebal temple, indicate the transfers of decorative ideas from Egypt, however the temple can hardly be described as Egyptian on this basis.

8.9. Conclusion

Manufactured Egyptian objects in the Levant fit into the broad pattern of state-to-state gift exchange and trade goods established by scattered textual material of the third and second millennium. Goods attested in the Levantine archaeological record include prestige objects such as stone vessels, toilet articles, and special items. Objects of a more prosaic nature such as palettes, beads and other small pieces also formed part of this exchange, but their exotic origins may have lent them prestige and value in the eyes of those who received them rather than the giver.

In describing findspots of stone vessels from third millennium southern Mesopotamia, Potts noted that the 'value of such objects was clearly very closely tied to the contexts of their 'use', in which cultural and religious

considerations were paramount, and often depended crucially on the means of acquisition' (Potts 1989: 143). Textual evidence from third millennium Western Asia points to the use of stone vessels as diplomatic gifts, exchange items and war booty. In the Akkadian Period, stone vessels were taken as war booty and inscribed with dedication of the victor (Potts 1989: 130-1, 133). While no literary evidence exists from the OK, texts and archaeological evidence from other regions point to these roles. While separated in time, Amarna letter EA14 describes Egyptian royal gifts sent abroad as consisting, amongst other things, of 'stone jars full of sweet oil' and over 160 stone vessels with no contents, including bowls, jars, goblets, and other containers (Moran 1992: 32-3).

Vessels from Byblos and Ebla inscribed with royal names or motifs associated with the king show that these must have originated from a royal source. The presence of Egyptian luxury items like stone vessels at sites beyond 'Egypt's sphere of influence belong to an age old pattern of exchanging gifts, favours and considerations as part of the never-ending social strategy of securing influence between equals' (Redford 1986a: 141).¹⁸⁸

At Ebla, Byblos, Ai and Tel Yarmuth, vessels (or fragments) were found associated with palatial or temple structures. Indeed, all of these contexts are associated with political or religious elites, implying elite acquisition of the vessels, either directly or indirectly, and the inherent preciousness of these objects.

Caution should be exercised in using stone vessels as chronological markers. As the Menkaure Temple stone vessel magazine indicates, older Egyptian stone vessels stayed in circulation long after their date of production. Hence, it is possible that many stone vessels outside Egypt were exported long after their production date. The geographical spread, elite contexts, presence of inscriptions, and the overwhelming presence of vessels that were not containers all point to the use of such items by Egypt as a form of elite gift exchange or prestige trade item.

The wide date range of the vessels in EB III Canaan suggests either the vessels arrived at different times or came from an Egyptian stone vessel repository. While some are of ED date, other vessels date to the 3rd Dynasty and possibly later. Two vessels, one each from Ai and Bab edh-Dhra, may have been containers for Egyptian commodities.

At Byblos, the Egyptian stone vessels belong to the terminal Phase KIV, but the types belong to the 3th-6th Dynasty and ED Period. The majority of them are found in an elite residence rather than the Ba'alat Gebal temple.

¹⁸⁸ Redford's assertion that 'the OK in Egypt rarely yields presents sent in the other direction' (1986a: 141) ignores the possibility that such gifts consisted of raw materials, perishables like timber objects, textiles or even metals, in raw form or later re-used and not now present in the archaeological record.

Vessels of probable north Syrian origin were also found there. This points to elite gift exchange and trade rather than any cultic rationale for their presence at Byblos. The fact that a number of these are inscribed with Egyptian royal names further supports their regal origins. Only a small number of vessels are found in the Ba'alat Gebal temple; three are inscribed, and they may represent Egyptian endowments to the temple. However, the precise identity of the people who placed them there is unknown. Many other OK objects at Byblos are without a verifiable provenance and therefore cannot be used reliably in any debate on Egypt's relationship with the city.

At Ebla, not only do the vessels span a wide chronological period, but the manner and purpose of their arrival cannot be established with certainty. However, the majority of the vessels are bowls (as with Ai and Tel Yarmuth) stored in the Palace G complex, pointing to direct or indirect gift exchange, probably in exchange for Eblaite silver and lapis lazuli. Like Byblos, a vessel bearing the name of Pepy I occurs at Ebla, which may point to a particularly active role of this king in the eastern Mediterranean. As with Byblos, a 4th Dynasty royal name, that of Khafre, is also attested, from which one could also draw the same conclusion.

In Crete, only one Egyptian vessel can be positively dated to the EM II (synchronised with the OK); it was found in a domestic context and should be associated with down-the-line exchange mechanisms via Cyprus and the Syrian coast.

In Canaan, the Egyptian slate palettes appear in a range of EB II-III tomb and settlement contexts. They are found largely in contexts much later than the *floruit* of the type in Egypt, suggesting they may be heirlooms from an earlier age. However, they are probably the product of Egyptian tomb robbing or come from a temple magazine, arriving in the hands of Egyptian emissaries seeking commodities, or via local down the line exchange mechanisms. OK textual evidence points to the exchange of more mundane objects like throwsticks; Egyptian palettes in Canaan should be viewed in the same light.

Other prestige objects such as the comb, dagger handle and faience cone from Ai likewise fit the pattern of precious gift exchange between elites in antiquity. Their context in Sanctuary A and appearance with other luxury Egyptian items points to the preciousness of the objects by virtue of their exotic origins and craftsmanship. Further raw materials analysis is required to more precisely confirm the origin of such objects, rather than simply relying on stylistic attribution.

The presence of Egyptian beads, amulets and seals in Canaan should be viewed as part of an exchange in such items dating back to the Chalcolithic Period. This exchange not only involved finished objects in carnelian and possibly faience, but also raw materials like Red Sea shells and semi-precious stones as raw materials. The question of Egyptian faience exports has not been comprehensively settled, but the text from Sabni's tomb describing Egyptian

faience as a diplomatic gift certainly indicates that objects of this material were exchanged. Some faience in Canaan may likewise originate in Egypt.

A range of other perishable items may have formed part of the OK repertoire of manufacture trade goods. Sabni's text points to textiles in gift exchange and as a commodity, although not surprisingly no archaeological evidence is found in the Levant. Other objects include papyrus and furniture, but the evidence for this is slender to non-existent. However, once again such items would fit other evidence for a Levantine gift exchange in furniture and textiles.

The impact of Egyptian contact in Canaan is seen in a small number of Egyptianising ceramics. The locally made cups from the Ai Sanctuary are closely related to similar vessels from Egypt, and were found alongside Egyptian imports. This suggests the appropriation of certain Egyptian symbols for status display by local elites.

Likewise, various egyptianising architectural features speak of direct Egyptian influence. Use of the Egyptian cubit for Palace B and no other building at Tel Yarmuth indicates the transfer of ideas between Egyptian and local elites, as suggested by the appearance of other objects at the site. The internal buttresses on the same building, best paralleled at Byblos, point to a deliberate attempt by local elites to appropriate various symbols of status display involving not only prestige objects but ideas as well. So-called Egyptian features in buildings at Ai and Beth Yerah and could reflect more local traditions and hence their links with Egypt require more study. At Byblos, the possible presence of egyptianising features also point to the appropriation of Egyptian iconography by local elites.

We cannot ascertain the level of direct political and cultural influence exercised by Egypt over her immediate neighbours; in any case this question is beyond the scope of this study. However, evidence suggests that Egypt was in direct contact with elites at a number of key cities, including several major centres in Canaan, whom the Egyptian state thought of sufficient importance to send exotic gifts and maintain official contact through its agents and emissaries.

CONCLUSION: A REVISED VIEW OF EGYPTIAN RELATIONS WITH THE LEVANT IN THE OLD KINGDOM—EB III/IV

The characterisation of OK Egypt's relations with the eastern Mediterranean has been hampered by several factors. The first is the recent emphasis on the EB IB (and to a lesser extent the EB II) that has largely failed to regard the OK-EB III/IV as part of the ebb and flow of Early Bronze Age interconnections. The second factor is the dominance of textual and artistic evidence, the lack of any new documentary discoveries, and the unreliability of royal sources as historical sources. However, a fresh view of Egypt in the Levant during the EBA II-III/IV can be gleaned from a re-evaluation of old archaeological data, new evidence from recent excavations and the application of scientific methods of analysis to materials and residues. As a result, it can be seen that the pattern of OK Egypt's formal relationships in the region is rooted in the patterns established in the EB II.

Predynastic Period to Dynasty 0—Early Bronze Age I

In the EB IA–Naqada IIB, exchange was sporadic and low level, embracing land-based networks with southern Canaan. There is also some evidence suggesting a link with the Byblos region. By the early EB IB–Naqada IIC/D2, stronger evidence for commodity exchange exists, based on a series of land-based trading networks to supply elites with exotic products not available in Egypt. During this time, an enduring sea connection with the timber region around Byblos was probably established. By the Naqada IIIA Period, the increasing need of local elites to acquire and display exotic imports to symbolise and legitimate their political power becomes more pronounced. Links reached their peak in the late EB IB–Naqada IIIB/C1, when the relationship previously based on an exchange of goods underwent a fundamental shift. A more intense core/periphery association developed, with the emerging Egyptian state spreading its control from the eastern Delta to southern Canaan (*h3st*), where it establishes a series of outposts. This shift involved the movement of Egyptians into southern Canaan at the behest of its nation-building leadership, creating strong administrative centres at Tell es-Sakan, En Besor and possibly also Tel Ma'ahaz and Lod. This presence was at its strongest under Narmer, but continued under Horus Aha. The impact on the comparatively underdeveloped urban complexes of the Levant was profound, bringing with it political, social and economic organisation, accelerating the development of complex society in the EB II.

Early Dynastic Period—Early Bronze Age II

At the beginning of the EB II, another shift occurs and the Egyptian presence retreats for reasons that are not clearly understood. This shift should be placed

at the reign of Djer, which marks the appearance of Abydos Ware in Egypt. A greater focus on domestic affairs, combined with a greater level of confidence on the part of emerging local elites, may have resulted in Egypt withdrawing its presence on the ground in Canaan. This growing assertiveness on the part of elites may have produced sporadic military activity with Egypt, as suggested by the fragmentary textual record.

The emergence of complex society in EB II Canaan and the withdrawal of the Egyptian presence produced a shift in regional power structures. The relationship changed to one based on commodity exchange, product acquisition and diplomacy with local elites. This change in the status of each region is visible in the decline of the Egyptian presence in Canaan combined with the appearance of imported Egyptian fine stone vessels. They appear at a range of sites, but in significant quantities Tel Yarmuth and Ai. They were used in the diplomatic act of royal commerce, as royal gifts or trade items between Egyptian and Canaanite elites. Contact with Egypt also provided local elites with a form of status and display involving Egyptian objects. As Sherratt and Sherratt have observed (1991: 354), 'material goods are an essential part of cultural structures of meaning and symbolism, which can be used in social strategies of recruitment and exclusion and so form an important component of social change'. Thus the elite acquisition of such items outside Egypt, particularly at Ai and Tel Yarmuth, served to underpin social hierarchies within communities and re-enforce the political dominance of these urban centres in southern Canaan, which continued into the EB III. This more formal relationship is also reflected in the appearance of Egyptian officials, both in Egypt and in northern Canaan at Beth Yerah, with responsibility for administering affairs with her northeastern neighbours.

The acquisition of luxury products was an important element of status display for Egyptian elites. The Egyptian state sourced products from a range of different locations during this time (Figs 45-6). Byblos emerges as the entrepôt for the coastal coniferous timber trade and other exotic products like lapis lazuli. The appearance of Egyptian stone vessels of possible ED date at Byblos, although in much disturbed contexts, suggests the commencement of formal relations between Egyptian and Byblite rulers at this time. The importation of cedar, seen in small quantities during Naqada III, begins on a significant scale under Horus Aha, with large timber beams for construction transported via the maritime route from the forests of the northern Levant. Moreover, these links (direct or down-the-line) to the north may have extended as far as the Amuq, with the importation of commodities in lattice burnished Abydos Ware jugs. The route to Byblos would have been supported by a series of coastal way-stations: probably near the mouths of wadis in Canaan and in the Bay of Haifa (Fig. 46).

The need for heavy coniferous timbers like cedar, required for the construction of royal monuments and shipping, transformed exchange patterns. The large-scale acquisition of imports, especially timbers by sea,

required significant resources and high levels of political organisation and control. In all likelihood, the formal establishment of the sea-route at the beginning of the 1st Dynasty along the coast to Syria provided a more efficient means of transportation that did not require a network of land-based outposts in Canaan to manage the acquisition and shipment of goods. This same link may have facilitated the commodities trade in Canaan, particularly in the north, by shipping products from the Bay of Haifa rather than transporting products overland all the way to Egypt by donkey caravan. The relative lack of Egyptian ceramics across the Sinai land bridge during the latter part of the ED is probably the result of this change in transport mechanisms.

Despite the growing importance of the coastal sea route, Egypt's links with central and southern Canaan still functioned (Fig. 46). Arad emerged as a strong player in the Feinan copper network, and in the market for other commodities, a position which fuelled its development as an urban centre in the EB II. The wine and olive oil industry of the hill country in Canaan continued supplying the Nile Valley, but in much reduced quantities for wine at least, owing to the commencement of viticulture in Egypt.

The acquisition of Sinai turquoise and copper was probably maintained using a combination of the Arad network, Egyptian mining parties and exchange with local tribespeople. In addition, ED elites may have begun directly sourcing these commodities via itinerant expeditions to Wadi Maghara in the Sinai. Military skirmishes with hostile Sinai inhabitants, as suggested by the textual and artistic evidence, helped Egypt establish the confidence to exert direct, on-going royal control over these assets by the early 3rd Dynasty. The Feinan copper resources, in addition to local mines in the Eastern Desert, probably supplied Egyptian needs for the ore, through the east-west route through Arad.

However, a growing level of Egyptian interest in northern Canaan is also evident. From Djer's reign onwards, Abydos Ware imports reveal a systematic exchange with northern Canaan, which existed without the Egyptian presence in the south so evident in the EB IB. Beth Yerah emerges as an important centre not only for the production of liquid commodities, but for northern product procurement. A physical Egyptian presence is based there, dating to the middle of the 1st Dynasty, and possibly into the 2nd Dynasty. As a result, the official Egyptian 'reach' extends even further north with the import of commodities in Metallic Ware jugs from the region of the Central Levant, where *Pinaceae* resin was obtained. The Egyptian demand for coniferous resins may have been linked to emerging techniques of mummification, for which the aromatic and preservative qualities of coniferous resins were highly prized. Egyptian officials sent these commodities to Egypt using a combination of donkey caravans and sea links.

Little is known about what Egypt sent to the Levant in return. Egyptian objects in EB II Canaan are poorly documented; in all likelihood, more exists

in the archaeological record than has been identified thus far. Durable prestige objects such as palettes, stone vessels and ‘trinkets’ like beads appear, and some pottery is mentioned in the literature, but the latter is poorly published. As with the EB III, Egyptian exports may have been of a perishable nature or of a kind that did not require ceramic containers (given the little Egyptian pottery that has been found abroad), like finished linen textiles, gold, faience, high-value raw stones, shells or grain.

This exchange activity continued under 2nd Dynasty rulers. Analyses conducted on a small number of 2nd Dynasty wood samples reveal the continuation of coniferous timber imports, particularly on a large scale during the reign of Khasekhemwy. This indicates a continuation of relations with the Byblos region and concomitant with this, down-the-line networks further north. Egyptian textual material also points to the arrival of tribute or produce from Canaan. On the other hand, imported pottery is not well-attested in 2nd Dynasty Egypt, which could represent a break in supply or the fact that the period is poorly known to archaeologists. Further 2nd Dynasty data is required to illuminate this shadowy period, but on the basis of a growing body of evidence, it appears that Egypt was an active participant in the geo-political affairs of the region, particularly under Khasekhemwy.

Old Kingdom—Early Bronze Age III and IV

By the OK, the Egyptian state existed in its ‘mature’ form, with kings sitting at the apex of a strictly hierarchical and highly organised administrative system. In Canaan and elsewhere in the Levant, the EB IB and EB II pattern of large towns servicing numerous smaller settlements was replaced by a smaller number of bigger fortified towns in key locations, with temples, structures associated with state administration and presumably more complex social organisation.

Into this regional political context, Egypt prosecuted its interests via four principle geographical foci: the north Levantine coast, northern and southern Canaan, and the Sinai (Figs 47-8). The most important of these links was with western Sinai, over which Egypt exercised direct control from the 3rd-6th Dynasty. Secondly, Byblos and the coastal region to the north and south of the city continued the important role in Egypt’s foreign policy dating back to earlier times. Canaan continued supplying Egypt with commodities, but previously strong links in the EB II competed with products available through the Byblos network. This activity was largely conducted by sea, with the inland regions of Canaan serviced via coastal way-stations and donkey caravans. The purpose of all this activity was the acquisition of valuable resources by the Egyptian state, including commodities and manpower, achieved through exchange with local elites and the forced possession of human booty through military campaigns.

Despite its economic underpinnings, this activity may have served political and theological ideologies, by asserting the king's real or imagined domination over 'foreign lands' as suggested by Egyptian iconography. As Parcak (2004) suggests, in the western Sinai, this was true throughout much of the OK. However, in addition to its economic rationale, the standard 'expedition to Byblos' may have been a necessary (at the very least, annual?) journey for every king to undertake as a ritualised, formal expression of his ability to project himself - and by extension his divine transcendence - beyond Egypt's borders.

The 3rd Dynasty witnessed control of the Sinai copper and turquoise resources under the reign of Sanakht, and continuation of ED interaction with Canaan. Although the evidence is slender, stone vessels at Ai and Tel Yarmuth suggest that exchange between elites continued. Objects of a luxury nature at Ai may have arrived at this time but this is difficult to judge. In Egypt itself, few imported goods are found; even so, these comprise foreign coniferous timbers found at Saqqara. Some stone vessels at Byblos probably date to the 3rd Dynasty, but they were not found in-context and hence may not be contemporaneous imports. Much is yet to be learned about the archaeology and history of the 3rd Dynasty.

The advent of the 4th Dynasty witnesses the continuation of networks with the Byblos region. The Palermo Stone, and archaeological evidence at Dashur and Giza, attests to the large-scale importation of timbers as early as the reign of Sneferu. Indeed, the 4th Dynasty may have witnessed the zenith of the sea-borne OK timber trade, fuelled by monumental construction projects. The most common foreign timber is *Cedrus libani*, used for shipbuilding, construction and the manufacture of smaller objects such as coffins. This is equated with 'š-wood of Egyptian texts. Byblos probably acted as an entrepôt for this exchange. A stone vessel at Byblos bearing Hetepheres' name may point to official contact during the reign of Sneferu or Khufu, but as this was found in Phase KIV along with much later OK material, the value of this as evidence for 4th Dynasty contact is diminished. Egyptian emissaries may have also obtained wood directly from those owning or controlling timber stands along the Levantine coast. In this respect elites from the towns of Tell Arqa and Sidon may have played key roles.

This exchange was state-sponsored and also served to cement the king's power, 'gained through monopolizing control over certain goods and prestige articles ... that constitute wealth ... with its status-defining properties, wealth - i.e. its production, display and distribution - serves as the currency of everyday political transactions' (Melas 1991). Luxury goods appear in tombs of the Egyptian royal court at Giza but after the 4th Dynasty they spread beyond the Giza region into the hands of lesser officials.

The re-appearance of lapis lazuli in the 4th Dynasty also reflects the importance of links with the north, providing a rationale for the presence of 4th Dynasty stone vessels at Ebla, an entrepôt for the eastern lapis lazuli and

Anatolian silver trade. The standard weight and size of the lapis lazuli blocks from Ebla also help expose the highly organised values established for raw materials exchange by weight in the trading systems of the eastern Mediterranean. Of the Egyptian stone vessels found at Ebla, two bore royal names and the majority were bowls, indicating elite gift exchange or a trade in the vessels themselves. Although the OK stone vessels were all found in Syria EB IVA (c. 2350 BC, Tell Mardikh IIB1) contexts, it is possible that links between Egypt and Ebla have a long history, based on the trade in these commodities. Silver may have been acquired as a means of exchange elsewhere rather than obtained exclusively for the production of objects in Egypt, for which locally extracted silver was used. The extent to which the silver and lapis lazuli trade was conducted directly with Ebla is unknown, as either Byblos or Ugarit may have served as exchange centres. However, the Ebla texts reveal the size of its palace economy in the sheer quantities of goods such as live animals, silver, lapis lazuli and textiles. Ebla was a significant regional commodity exchange centre. The presence of stone vessels at Ebla with royal names suggests that like timber, official networks with Ebla existed throughout much of the Old Kingdom to access these products (Fig. 47).

There is also a sudden increase in the quantity of imported pottery relative to the 3rd Dynasty, although this could represent the accident of discovery. The greatest number of imported Combed Ware jars during the OK occurs in elite 4th Dynasty Giza tombs. This coincides with the disappearance of Abydos Ware in Egypt, prompted by the fact that larger Combed Ware jars facilitated the transport of greater quantities of liquid commodities, or indeed reflected a change in the commodity itself. By the EB III, only Combed Ware jars are produced in the Metallic Ware fabric, a testament to its utility as a bulk transport vessel. They also signal a high degree of economic organisation, agricultural and craft specialisation on the part of EB III polities engaged in a sophisticated export market. One-handled jars also occur, but in much reduced quantities and these largely disappear by the end of the 4th Dynasty. The rarity of these vessels suggests that they were especially made for export, with their chemical signature indicating an origin in the central Levant area of northern Israel/Mt Hermon. Elemental analysis shows that a number of Combed Wares from early 4th Dynasty tombs came from Byblos; vessels from northern Syria/southern Turkey probably arrived via down-the-line mechanisms through Ugarit and Byblos (Fig. 47).

Residue analysis confirmed that coniferous resins were also imported from the Byblos region in the 4th Dynasty. Egyptian texts describe the products as *ṣ*, and *sft*-oil. The terms probably refer generically to resin from coniferous trees, with the base product consisting of *Pinaceae* or fir resin.

In Canaan, less evidence can be definitively ascribed to the 4th Dynasty. The wide date range of stone vessel types and other exotic imports means that precisely characterising the relationship is more problematic. Imported

Egyptian objects continue to be found in EB IIIA contexts, but these finds cannot be synchronised with the actions of particular kings or even Dynasties. Moreover, some of these objects, such as a range of siltstone palettes, are typologically earlier than the date of deposition, suggesting that this material was acquired from Egyptian tombs, or retained as heirlooms in either Egypt or Canaan. The fact that no imported pottery in Egypt dating to the 4th Dynasty (tested thus far) bears the ceramic signature of southern Canaan may simply reflect the preference for obtaining certain liquid commodities via the sea lanes from northern sources, rather than any break in trade with the region. In the Sinai, inscriptions reveal the active role of kings in the Wadi Maghara (Fig. 47).

Fifth Dynasty kings continue activities abroad, but perhaps on a lesser scale. Sinai expeditions continue, with Sahure, Niuserre and Djedkare-Isesi all sending mining parties. In Egypt, imports seem to plateau, with fewer foreign ceramics; these also begin appearing in non-elite contexts beyond the royal burial grounds of northern Egypt, suggesting a weakening of central control over the products of foreign missions. The documentary record also provides more evidence, with illustrations from Sahure's and Unas' funerary monuments pointing to Asiatic expeditions. Given the problematic nature of royal inscriptions and scenes, these images may be symbolic representations rather than actual historical events. However, certain 5th Dynasty rulers were active abroad, and such scenes may have a factual basis, while indicating a widely-prosecuted foreign policy. Sahure and Isesi sent expeditions to Punt. In-context stone vessels are known from the Ba'alat Gebal temple at Byblos bearing the names of Niuserre and Unas. Such finds help support the notion of official communication with Byblos. Moreover, the use of the Egyptian cubit at Tel Yarmuth appears in levels tentatively synchronised with the 5th Dynasty, likewise suggesting official engagement with Canaan. Sixth Dynasty Meydum bowls are found along the 'Way of Horus'. Scenes of military activity from the tombs of Inti at Deshasha and Ka-em-hesit at Saqqara may represent military action in Canaan during the latter part of this era.

A trade in people is known from the textual evidence and wall scenes, but care should be taken in describing this as slavery. Rather, they are captives and prisoners of war, attested in large numbers as early as the reign of Sneferu, and again in the 5th and 6th Dynasties. Dancing pygmies from Punt were brought back to Egypt for the enjoyment of the king during the reign of Isesi and Pepy II.

Other products attested in the archaeological and documentary record include live animals, animal products, plants and other rare timbers. From at least as early as the reign of Sahure, the Egyptian elites sourced exotic animals such as bears from the Levant for royal menageries. Such animals were also exchanged as royal gifts in northern Syria. Animal products such as skins and elephant ivory were imported from Nubia. Hippopotamus ivory may have been traded in the eastern Mediterranean, finding its way to Crete and

probably elsewhere. Exchanges between rulers and war booty also involved live animals such as cattle.

Other foreign timbers such as *mnk*-tree wood, *mrw*-wood and ebony from Nubia were also imported. Pictorial evidence also suggests that species of live trees foreign to Egypt, such as the *pri-šni*-tree from Byblos and juniper (*Juniperus phoenicia*) from the Sinai, may have been imported and cultivated in Egypt, with berries from the latter known from Egyptian tombs. The medicinal properties of the fruit, in addition to their use in mummification, required a steady source of produce. Wall scenes must, however, be treated cautiously owing to the symbolic nature of funerary art. Actual examples of Cilician fir, cypress, box and yew were also imported in small quantities from the Levant. Oils and resins from Nubia, including myrrh, were also sought.

In all likelihood, copper was also obtained from the Wadi Feinan, as it had been from earliest times (Fig. 48). This is suggested by the presence of Egyptian objects in EB II and EB III deposits at Bab edh-Dhra and Numeira. A program of testing OK copper objects and residues is required to confirm this conclusion. In addition, local sources near Gebel Zeit were also mined during the early OK at least, in addition to those at Wadi Maghara. Textual evidence for cult objects of 'Asiatic copper' points to a precious metal that ranked in rarity and value behind silver or gold. The precise identity of this material is unknown, but this metal was possibly imported bronze from northern Syria or imported copper from the Feinan or the Sinai. The impact of Feinan copper ore extraction and exchange on the political, economic and social organisation of the whole region was profound, but analysis of its importance is beyond the scope of this study.

Other products of Canaan were in demand. Jars from southern Canaan appear in Egypt from the mid-5th Dynasty onwards, a finding which may help support textual evidence of greater Egyptian involvement in the region during the second half of the OK. They may have contained special vintages of wine or vegetable oils such as moringa or olive oil from towns like Tel Halif, Ai or Tel Yarmuth. Indeed, ED imported jars contained traces of vegetable oils, but no residue analysis has yet confirmed the presence of such products. However, the extent of EBA olive cultivation, combined with an origin in southern Canaan for some Combed Ware jars from Giza, points to a trade in olive oil, perfumed oil or special vintages of wine in the EBIII/IV. Liquid commodities continued arriving in Combed Ware jars from northern Canaan, but the quantities were reduced when compared to this trade in the ED.

During the 6th Dynasty, there is further documentary evidence of Egyptian activity in the eastern Mediterranean. Officials speak of making many trips to Byblos, and military activity in Canaan by Weni is attested during the reign of Pepy I. Caravaneers and diplomats, acting in the king's name, take Egyptian products to Nubia and return with exotic commodities. The 'Byblos ship' is the standard sea-going vessel for long-haul expeditions.

In levels synchronised with the 5th and 6th Dynasty, large quantities of *aegyptiaca* are clustered at Byblos and Ebla. Collections of inscribed and uninscribed Egyptian stone vessels appear in the terminal Phase KIV of an elite residence and in the Ba'alat Gebal temple complex at Byblos, and also in the final EB phase of Palace G at Ebla. Indeed, Pepy I's name occurs at both sites, which may point to particularly active exchange interests during his reign. The stone vessels represent a collection of exotic imports that were not all containers for commodities. Indeed, the predominance of bowls, offering platters and ornamental vessels indicates that they were either royal gifts or trade items in their own right. The elite nature of their contexts indicates that these objects were exchanged at high levels within the administration of these centres. The presence of vessels with royal names also indicates that they originated from the repositories of OK rulers. As to whether they represent collections of *aegyptiaca* obtained over a long period of time, or a group of vessels spanning various dates gathered over a short time span, must remain an open question, as such objects had a particular heirloom value, even in Egypt itself.

Likewise the question of whether the Egyptian vessels at the Ba'alat Gebal temple at Byblos represent gifts given by Egyptian kings as endowments to the local cult is uncertain. The overall quantity of in-context vessels found there is small when compared to the number found elsewhere at Byblos. Perhaps they were placed there by local elites as offerings rather than Egyptians. However, it is now impossible to ascertain how many other OK stone vessels from Byblos, found scattered in many different levels, originally belonged to the temple.

In Egypt, there is less imported pottery, much of it located at sites other than Giza. Some of these vessels may be local imitations. This might reflect the declining ability of the OK state to mount foreign expeditions for anything but essential products (like timber) and diplomatic missions. It could also relate to problems of supply in the Levant, or to simply an excavation bias given the significant archaeological work at Giza over the last 100 years. The greater diffusion of imported pottery beyond Giza in the late 5th and 6th Dynasties may likewise represent a reduction in state control over the fruits of foreign missions. A wider regime of materials analysis would help clarify the spread of imported raw materials usage across various social strata and geographical locations in Egypt.

Characterising OK exports is difficult. Manufactured goods such as palettes, faience beads, and stone vessels are easily identified *exotica* and were probably traded and given as gift exchange, diplomatic presents or keepsakes. Some of this material is ED in date but found in later contexts; other objects are more securely OK in date. Such objects appear in Canaan in elite and non-elite contexts. The many early objects are so out-of context that it is possible that their appearance is the product of Egyptian tomb robbing or a trade in archaic Egyptian goods which had a particular appeal in Canaan.

Other objects, such as the Ai stone vessels, almost certainly represent elite heirlooms. They appear in the terminal EB IIIB destruction of the Sanctuary and, by the nature of their contexts, represent Egyptian gifts retained as heirlooms from the earlier EB II or EB IIIA temple or in-context imports from an Egyptian stone vessel repository. These items served to legitimate the power of ruling elites and re-enforce their status.

Evidence for other products is circumstantial but compelling. Honey and *mrht*-oil, known from Sabni's caravan, leave no trace in the archaeological record, and yet textual evidence points to their exchange by Egypt as a diplomatic gift. Their only trace would be the ceramic or stone containers used for transportation, such as those found at Bab edh-Dhra. Gold may have been exported, but no real evidence exists without further analysis of gold objects from the Levant. Palettes from EB III Canaan have been examined petrographically, showing that Egyptian and Sinai stones were used in the production of objects. This may suggest an export of Egyptian raw stones, but it is also possible that these were Egyptian finished goods 'made for export' of a type not widely known from Egypt at the time. Carnelian may have been obtained from local wadis rather than directly from Egypt in every case. Other exported raw materials include Red Sea shells and turquoise via Sinai networks. Egyptian textiles were probably an important exchange item, but nothing remains in the archaeological record. Other exotic finished Egyptian goods like travertine headrests, cylinder seals, amulets, daggers and faience objects are all found in the eastern Mediterranean and are precious items to be identified as elite gifts or traded *exotica*. Like the EB II, given the relative absence of Egyptian pottery in the EB III/IV eastern Mediterranean, it seems unlikely that Egyptian 'exports' were of a kind that involved large quantities of ceramic containers.

Contact with Egyptian officialdom in Canaan and Byblos resulted in more than just the exchange of exotic goods. The adoption of certain Egyptian motifs and ideas is reflected in the appearance of the *uraeus* as an architectural element at Byblos, and the use of the cubit for Palace B at EB IIIB Tel Yarmuth. Egyptianising pottery at Ai speaks of more subtle influences, with Egyptian shapes produced locally for use as cultic vessels. Whether the Egyptian stone vessels there were originally intended as Egyptian gifts to the local cult is impossible to tell, but evidently the objects had an element of preciousness that elevated them to a special status. The highly organised and literate OK state cannot claim any political dominance over the Levant, but its cultural impact on the societies with whom it dealt may have had profound implications that are beyond the scope of the present study to explore.

Likewise, Egypt's role in the end of the EB III cannot be tackled in the present work. However, ceramic imports were still arriving in Egypt from southern Canaan and Byblos during the late 6th Dynasty. Evidently, despite

whatever political turmoil was beginning to engulf the region, modes of commodity production for export continued.

The archaeological evidence for Egyptian interaction in the eastern Mediterranean during the OK fits into the pattern of third millennium state-to-state gift exchange, commodity trade and war booty, highlighted in the fragmentary Egyptian textual record, the Ebla texts, and records from southern Mesopotamia. The roots of this pattern are found in the ED. Trade involved the exchange of luxury items such as gold, silver and other metals, lapis lazuli, exotic timbers, resins, oils, perfumes, stone vessels, raw stones, beads, amulets, palettes and other stone objects, foodstuffs, animals and people. Other products may have included textiles and papyrus. This exchange was prosecuted at a state-to-state level by Egyptian officials at the behest of the state. Its primary rationale was to provide the royal court and elites with high-status goods not available locally, to advance Egypt's political, economic, security interests and relationships with influential foreign elites, and to project the king politically to local audiences. Under Pepy I and II, at Byblos this may have assumed an extended religious dimension. Thus far, there is no evidence on the Egyptian side that this exchange was in the hands of private merchants. Yet the acquisition of valuable products was the fundamental motivation of this economic behaviour, rather than political domination or empire building. This activity, fuelled by the acquisition of cedar wood, probably reached its furthest geographical and quantitative peak during the 4th Dynasty. However, throughout the OK, the Egyptian state, with varying degrees of success, continued engaging in direct and down-the-line contact with most of the key political and commodity production centres of the Levant. It was a key player and a major market for regional commodities in the trading systems of the Levant, yet not apparently dominant. While relationships may have soured from time to time, resulting in military action in Canaan in the latter stages of the OK, the pressures that engulfed the entire region at the end of the EB III probably fuelled these crises.

BIBLIOGRAPHY

- Abd el-Raziq, M., Castel, G. and Tallet, P. 2004. 'Dans le Golfe de Suez, les mines de cuivre d'Ayn Soukna', *Archéologia* 414: 10-21.
- Adams, B. 1995. *Ancient Nekhen* (New Malden).
- Adams, R.B. 1999. *The Development of Copper Metallurgy during the Early Bronze Age of the Southern Levant: Evidence from the Faynan Region, Southern Jordan* (unpubl. PhD thesis, Sheffield University).
- . 2006. 'Copper trading networks across the Wadi Arabah during the Later Early Bronze Age', in P. Bienkowski and K. Galor (eds), *Crossing the Rift. Resources, routes, settlement patterns and interaction in the Wadi Arabah* (Levant Supplementary Series 3, Oxford): 137-44.
- Adams, W.Y. 1964. 'Post-Pharaonic Nubia in the Light of Archaeology. I.', *JEA* 50: 102-20.
- Adovasio, J.M. and Andrews, R.L. 1982. 'Selected Perishable Artifacts from Bâb edh-Dhrâ', *BASOR* 247: 59-69.
- Ahlstrom, G. 1993. *The history of ancient Palestine from the Palaeolithic Period to Alexander's Conquest* (Sheffield).
- Albright, W.F. 1934. *The Vocalization of Egyptian Syllabic Orthography* (New Haven).
- . 1949. *The Archaeology of Palestine* (London).
- Aldred, C. 1978. *Jewels of the Pharaohs* (New York).
- Alexanian, N. 1999. *Dahschur II. Das Grab des Prinzen Netjer-aperef. Die Mastaba II/I in Dahschur* (AVDAIK 56, Mainz).
- Allen, J.P. 1992. 'Re-wer's Accident', in A.B. Lloyd (ed.), *Studies in Pharaonic Religion and Society in Honour of J. Gwyn Griffiths* (London): 14-20.
- Amélineau, E. 1899. *Les nouvelles fouilles d'Abydos (1895-1896)*, I (Paris).
- . 1902. *Les nouvelles fouilles d'Abydos (1896-1897)*, II (Paris).
- . 1904. *Les nouvelles fouilles d'Abydos (1897-1898)*, III (Paris).
- Amiran, R. 1965. 'A Preliminary Note on the Synchronisms between the Early Bronze Age Strata of Arad and the First Dynasty', *BASOR* 179: 30-3.
- . 1969a. 'A Second Note on the Synchronisms between the Early Bronze Age Strata of Arad and the First Dynasty', *BASOR* 195: 50-3.
- . 1969b. *Ancient Pottery of the Holy Land from its beginnings in the Neolithic Period to the End of the Iron Age* (Jerusalem).
- . 1970a. 'The Egyptian Alabaster Vessels from Ai', *IEJ* 20: 170-9.
- . 1970b. 'The Beginnings of Urbanisation in Canaan', in J.A. Sanders (ed.), *Near Eastern Archaeology in the Twentieth Century. Essays in Honor of Nelson Glueck* (New York City): 83-100.
- . 1971. 'The Much-discussed Vounous Foreign Vessel Again', *Report, Department of Antiquities, Cyprus*, 1-6.

- . 1972. 'Reflections on the Identification of the Deity of the EBII and EBIII Temple at Ai', *BASOR* 208: 9-13.
- . 1973. 'Connections between Anatolia and Palestine in the Early Bronze Age', *IEJ* 2: 89-103.
- . 1974a. 'The Painted Pottery Style of the Early Bronze II Period in Palestine', *Levant* 6: 65-73.
- . 1974b. 'An Egyptian Jar Fragment with the Name of Narmer from Arad', *IEJ* 24: 4-12.
- . 1978a. *Early Arad. The Chalcolithic Settlement and Early Bronze Age City I. First-Fifth Seasons of Excavations, 1962-1966* (Jerusalem).
- . 1978b. 'The Date of the end of the EB II City of Arad', *IEJ* 28: 182-4.
- . 1989. 'The Gilat goddess and the Temples of Gilat, en-Gedi and Ai', in P. de Miroschedji (ed.), *L'urbanisation de la Palestine à l'age du bronze ancien* (BAR International Series 527, Part 1, Oxford): 53-60.
- Amiran, R., Beit Arie, I. and Glass, J. 1973. 'The Interrelationship between Arad and Sites in Southern Sinai in the Early Bronze Age II', *IEJ* 23: 193-7.
- Amiran, R. and Glass, J. 1979. 'An Archaeological Study of 15 W-Ware Pots in the Ashmolean Museum', *TA* 6: 54-9.
- Amiran, R. and Gophna, R. 1992. 'The Correlation between Lower Egypt and Southern Canaan during the EB I Period', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 357-60.
- Amiran, R. and Ilan, O. 1996. *Early Arad, II* (Jerusalem).
- Amorós, V.A. and Vozenin-Serra, C. 1998. 'New evidence for the use of cedar sawdust for embalming by ancient Egyptians', *JEA* 84: 228-31.
- Anati, E. 1963. *Palestine before the Hebrews: A History from the Earliest arrival of Man to the Conquest of Canaan* (New York).
- Andelkovic, B. 1995. *Relations between Early Bronze Age I Canaanites and Upper Egyptians* (Belgrade).
- Andrassy, P. 1991. 'Die Beziehungen Ägyptens zu Vorderasien bis zum Ende des Alten Reiches', in E. Endesfelder (ed.), *Probleme der frühen Gesellschaftsentwicklung im Alten Ägypten* (Berlin): 103-54.
- Archi, A. 1987. 'Gifts for a Princess', in C.H. Gordon, G.A. Rendsburg and N.H. Winter (eds), *Eblaïtica: Essays on the Ebla Archives and Eblaïte Language, I* (Winona Lake): 115-24.
- Arnold, Do. and Bourriau, J. 1993. *An Introduction to Ancient Egyptian Pottery*, Fasc. 1 (Mainz).
- Arnold, Do. and Pischikova, E. 1999. 'Stone Vessels. Luxury Items and Manifold Implications', in Arnold, Do. (ed.), *Egyptian Art in the Age of the Pyramids* (New York): 121-31.

- Artzy, M. 1987. 'On the Storage of Olive Oil in Antiquity', in M. Heltzer and D. Eitam (eds), *Olive Oil in Antiquity: Israel and Neighbouring Countries from the Neolithic to the Early Arab Period* (Haifa): 1-4.
- Aston, B. 1994. *Ancient Egyptian Stone Vessels. Materials and Forms* (Studien zur Archäologie und Geschichte Altägyptens 5, Heidelberg).
- Aston, B., Harrell, J.A. and Shaw, I. 2000. 'Stone', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 5-77.
- Astour, M.C. 1995. 'Overland Trade Routes in Ancient Western Asia', in J.M. Sasson (ed.), *Civilizations of the Ancient Near East*, III (New York): 1401-20.
- Baer, K. 1960. *Rank and title in the Old Kingdom. The structure of the Egyptian Administration in the Fifth and Sixth Dynasties* (Chicago).
- Baines, J. 1989. 'Communication and display: the integration of early Egyptian art and writing', *Antiquity* 63: 471-82.
- . 1994. 'On Status and Purpose of Egyptian Art', *Cambridge Archaeological Journal* 4: 67-94.
- . 1995a. 'Kingship, Definition and Culture', in D. O'Connor and D. Silverman (eds), *Ancient Egyptian Kingship* (Leiden): 3-47.
- . 1995b. 'The Origins of Egyptian Kingship', in D. O'Connor and D. Silverman (eds), *Ancient Egyptian Kingship* (Leiden): 97-156.
- Balcz, H. 1934. 'Die Gefäßesdarstellungen des Alten Reiches', *MDAIK* 5: 5-94.
- Ballet, P. 1987. 'Essai de Classification des coupes type *Maidum-bowl* du sondage nord de 'Ayn-Asil (Oasis de Dakhla)', *CCE* 1: 1-16.
- Bar-Adon, P. 1957. 'Beth Yerah', *Bulletin of the Department of Antiquities of the State of Israel* 5/6: 29-30.
- Barbieri, M., Lilyquist, C. and Testa, G. 2002a. 'Provenancing Egyptian and Minoan Calcite-Alabaster Artifacts through $^{87}\text{SR}/^{86}\text{SR}$ Isotopic Ratios and Petrography', in L. Lazzarini (ed.), *Interdisciplinary Studies on Ancient Stone. Asmosia VI. Proceedings of the Sixth International Conference, Venice June 15-18 2000* (Padua): 403-14.
- Barbieri, M., Testa, G., Merola, D., Polychronakis, Y. and Simitzis, V. 2002b. 'Comparative Strontium-Isotope Analysis and Petrography of Egyptian and Cretan Limestone and Calcite-Alabaster', in L. Lazzarini (ed.), *Interdisciplinary Studies on Ancient Stone. Asmosia VI. Proceedings of the Sixth International Conference, Venice June 15-18 2000* (Padua): 415-25.
- Bard, K. 1992. 'The Origins of Egyptian Writing', in R. Friedman and B. Adams (eds), *The Followers of Horus. Studies dedicated to Michael Allen Hoffman* (Egyptian Studies Association Publication No. 2/Oxbow Monograph 20, Oxford): 297-306.
- Barta, M. 2001. *Abusir V. The Cemeteries at Abusir South*, I (Prague).
- Barta, W. 1963. *Die Altägyptische Opferliste* (MÄS 3, Berlin).
- Bar-Yosef Mayer, D.E. 2002. 'Egyptian-Canaanite Interaction during the Fourth and Third Millennium BCE: The Shell Connection', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 128-35.

- Bavay, L. 1997. 'Matière première et commerce à longue distance: le lapis-lazuli et l'Égypte predynastique', *Archéo-Nil* 7: 79-100.
- Bavay, L., Faltings, D., André, L. and de Putter, T. 2004. 'A Bladelet Core from Tell el-Fara'in-Buto and the Origin of Obsidian in the Buto-Maadi Culture of Lower Egypt', in S. Hendrickx, R.F. Friedman, K.M. Ciałowicz and M. Chłodnicki (eds), *Egypt and its Origins. Studies in Memory of Barbara Adams. Proceedings of the International Conference "Origin of the State. Predynastic and Early Dynastic Egypt"*, Kraków, 28th August - 1st September 2002 (Leuven): 607-19.
- Bavay, L., Marchand, S., and Tallet, P. 2000a. 'Les Jarres inscrites du Nouvel Empire provenant de Deir al-Médina', *CCE* 6: 77-98.
- Bavay, L., de Putter, T., Adams, B. Navez, J. and André, L. 2000b. 'The Origin of Obsidian in Predynastic and Early Dynastic Upper Egypt', *MDAIK* 56: 5-20.
- Beauvisage, G. 1896. 'Recherches sur quelque bois pharaonique', *RT* 18: 78-90.
- Beit Arieih, I. 1974. 'An Early Bronze Age II Site at Nabi Salah in Southern Sinai', *TA* 1: 144-56.
- . 1978. 'A Canaanite Site near Sheikh Mukhsen', *Expedition* 20: 8-11.
- . 1981. 'An Early Bronze Age II Site near Sheikh 'Awad in Southern Sinai', *TA* 8: 95-127.
- . 1984. 'New Evidence on the Relations between Canaan and Egypt during the Protodynastic Period', *IEJ* 34: 20-31.
- . 1986. 'Two Cultures in Southern Sinai in the 3rd Millennium BC', *BASOR* 263: 27-54.
- . 1998. 'Le Sinaï méridional au Bronze ancien II', in D. Valbelle and C. Bonnet (eds), *Le Sinaï durant l'Antiquité et le Moyen Age: 4000 ans d'histoire pour un désert* (Paris): 33-36.
- . 2003. *The Archaeology of Sinai. The Ophir Expedition* (Tel Aviv).
- Ben-Dor, I. 1945. 'Palestinian Alabaster Vessels', *QDAP* 11: 93-112.
- Ben-Tor, A. 1970. 'An Egyptian Stone Vessel from Tel Yoqneam', *'Atiqot* (Hebrew Series) 6: 78.
- . 1975. 'The First Season of Excavations at Tell-Yarmouth, August 1970', *Qedem* 1: 55-87.
- . 1977. 'Cult Scenes on Early Bronze Age Seal Impressions from Palestine', *Levant* 9: 90-100.
- . 1981. 'The Relations between Egypt and the Land of Canaan in the Third Millennium BC', *AJA* 85: 449-52.
- . 1982. 'The Relations between Egypt and the Land of Canaan during the Third Millennium BC', *JJS* 33: 3-18.
- . 1986. 'The Trade Relations of Palestine in the Early Bronze Age', *JESHO* 29: 1-27.
- . 1991. 'New Light on the Relations between Egypt and Southern Palestine during the Early Bronze Age', *BASOR* 281: 3-10.

- . 1992. 'The Early Bronze Age', in A. Ben-Tor (ed.), *The Archaeology of Ancient Israel* (West Hanover, MA): 81-125.
- Ben-Tor, A., Bonfil, R., Garfinkel, Y., Greenberg, R., Maeir, A.M. and Mazar, A. 1997. *Hazor V. An Account of the Fifth Season of Excavation, 1968* (Jerusalem).
- Ben-Tor, D. 1994. 'The Historical Implications of Middle Kingdom Scarabs found in Palestine bearing Private Names and Titles of Officials', *BASOR* 294: 7-22.
- Berman, L. 1999. *The Cleveland Museum of Art. Catalogue of Egyptian Art* (New York).
- Bevan, A. 2003. 'Reconstructing the Role of Egyptian Culture in the Value Regimes of the Bronze Age Aegean: Stone Vessels and their Social Contexts', in R.J. Matthews and C. Roemer (eds), *Ancient Perspectives on Egypt* (London): 57-73.
- . 2004. 'Emerging Values? The Consumption and Imitation of Egyptian Stone Vessels in EBII-MMI Crete and its wider Eastern Mediterranean Context', in J.C. Barrett and P. Halstead (eds), *The Emergence of Civilization Revisited* (Sheffield Studies in Aegean Archaeology 6, Sheffield): 107-26.
- Bianchi, R.S. 1998. 'Symbols and Meanings', in F.D. Friedman (ed.), *Gifts of the Nile. Ancient Egyptian Faience* (London): 22-31.
- Bietak, M. 1979. 'Urban Archaeology and the 'Town Problem' in Ancient Egypt', in K.R. Weeks (ed.), *Egyptology and the Social Sciences. Five Studies* (Cairo): 97-144.
- . 1988. 'Zur Maraine des Alten Reiches', in J. Baines, T.G.H. James, A. Leahy and A.F. Shore (eds), *Pyramid Studies and other Essays presented to I.E.S. Edwards* (London): 35-40.
- von Bissing, F.W. 1907. *Steingefäße (CGC Nos 18065-18793)* (Vienna)
- Bisson de la Roque, F. 1937. 'Le trésor de Tod', *CdÉ* 12: 20-6.
- Bleeker, C.J. 1973. *Hathor and Thoth. Two Key Figures of the Ancient Egyptian Religion* (Leiden)
- Bleiberg, E. 1996. *The Official Gift in Ancient Egypt* (Norman).
- Bonani, G., Haas, H., Hawass, Z., Lehner, M., Nakhla, S., Nolan, J., Wenke, R., and Wilfli, W. 2001. 'Radiocarbon Dates of Old and Middle Kingdom Monuments in Egypt', *Radiocarbon* 43/3: 1297-1320.
- Bongrani, L. 1963. 'I rapporti tra l'Egitto, la Siria e il Sinai durante l'Antico Regno', *Oriens Antiquus* 2: 171-203.
- Bonnet, H. 1928. *Ein frühgeschichtliches Gräberfeld bei Abusir* (Leipzig).
- Boochs, W. 1984. 'Weitere Bemerkungen zu den Sogenannten Tributen', *GM* 71: 61-6.
- Borchardt, L. 1907. *Das Grabdenkmal des Königs Ne-user-re'* (Leipzig).
- . 1910-3. *Das Grabdenkmal des Königs Sa'hu-re'*, I-II (Leipzig).
- von Bothmer, B. 1969. 'A new Fragment of an Old Palette', *JARCE* 8: 5-8.
- . 1971. 'A Bust of Ny-User-Re from Byblos in Beirut, Lebanon', *Kemi* 21: 11-16.

- Bourke, S.J., Sparks, R.T., Sowada, K.N. and Mairs, L.D. 1994. 'Preliminary Report on the University of Sydney's Fourteenth Season of Excavations at Pella (Tabaqat Fahl) in 1992', *ADAJ* 38: 81-126.
- Bourriau, J. 1981. *Umm el-Ga'ab. Pottery from the Nile Valley before the Arab Conquest* (Cambridge).
- Bourriau, J.D. and Nicholson, P.T. 1992. 'Marl Clay Pottery Fabrics of the New Kingdom from Memphis, Saqqara and Amarna', *JEA* 78: 29-91.
- Braidwood, R.J. 1937. *Mounds on the Plain of Antioch* (Oriental Institute Publications 48, Chicago).
- Brandl, B. 1989. 'Observations on the Early Bronze Age Strata of Tel Erani', in P. de Miroschedji (ed.), *L'urbanisation de la Palestine à l'âge du Bronze ancien*, II (BAR International Series 527, Part 2, Oxford): 357-88.
- . 1984. 'An Egyptian Stone Vessel from Tel Mevorakh', in E. Stern (ed.), *Excavations at Tel Mevorakh (1973-1976)*, II (Qedem 18, Jerusalem): 61-2.
- . 1992. 'Evidence for Egyptian Colonization in the Southern Coastal Plain and Lowlands of Canaan during the EB I Period', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 441-77.
- Branigan, K. 1991. 'Mochlos - an Early Aegean "Gateway Community"', in R. Laffineur and L. Basch (eds), *Thalassa: l'égée préhistorique et al mer. Actes de la troisième Rencontre égéenne internationale de l'Université de Liège, Station de recherches sous-marines et océanographiques (StaReSo), Calvi, Corse (23-25 avril 1990)* (Aegaeum 7, Liege): 97-100.
- Braun, E. 1993. 'Some Observations on the Origins and Iconography of a Cylinder Seal from Bâb edh-Dhrâ', *BASOR* 290/1: 121-5.
- . 2002. 'Egypt's First Sojourn in Canaan', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 173-89.
- . 2004a. *Early Beth Shan (Strata XIX-XIII): G. M. FitzGerald's Deep Cut on the Tell* (University Museum Monograph 121, Philadelphia).
- . 2004b. 'Egypt and the Southern Levant in the late 4th Millennium BCE: Shifting Patterns of Interaction', in S. Hendrickx, R.F. Friedman, K.M. Ciałowicz and M. Chłodnicki (eds), *Egypt and its Origins. Studies in Memory of Barbara Adams. Proceedings of the International Conference "Origin of the State. Predynastic and Early Dynastic Egypt", Kraków, 28th August - 1st September 2002* (Leuven): 507-17.
- Braun, E., van den Brink, E.C.M., Gophna, R., Goren, Y. 2001. 'New Evidence for Egyptian Connections during a Late Phase of Early Bronze Age I from the Soreq Basin in South-Central Israel', in S.R. Wolff (ed.), *Studies in the Archaeology of Israel and Neighboring Lands in Memory of Douglas L. Esse* (Chicago): 59-97.
- Breasted, J. 1924. *History of Egypt*, 2nd ed. (Chicago).

- van den Brink, E.C.M. 1988. 'The Amsterdam University Survey Expedition to the Northeastern Nile Delta (1984-1986)', in E.C.M. van den Brink (ed.), *The Archaeology of the Nile Delta. Problems and Priorities* (Amsterdam): 65-114.
- . 1992. 'Preliminary Report on the Excavations at Tell Ibrahim Awad, Seasons 1988-1990', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 43-68.
- . 1995. 'The 'En Besor Cylinder Seal Impressions in Retrospect', in R. Gophna et al., *Excavations at 'En Besor* (Tel Aviv): 201-14.
- . 2002. 'An Egyptian Presence at the End of the Late Early Bronze Age I at Tel Lod, Central Coastal Plain, Israel,' in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 286-305.
- van den Brink, E.C.M. and Braun, E. 2002. 'Wine jars with *Serekhs* from Early Bronze Age Lod: appellation Vallée du Nil Contrôlée, but for Whom?', in E.C.M. van den Brink and E. Yannai (eds.), *In Quest of Ancient Settlements and Landscapes. Archaeological Studies in Honor of Ram Gophna* (Tel Aviv): 167-92.
- . 2006. 'South Levantine Influences on Egyptian Stone and Pottery Production: some Rare Examples', in K. Kroeper, M. Chłodnicki and M. Kobusiewicz (eds), *Archaeology of Early Northeastern Africa in Memory of Lech Krzyżaniak* (Studies in African Archaeology, Poznań): 817-25.
- Broeder, N. and Skinner, H.C.W. 1992. 'Beads from the 1986 Season', in B. MacDonald (ed.), *The Southern Ghors and Northeast 'Arabah Archaeological Survey* (Sheffield Archaeological Monographs; Sheffield): 135-53.
- . 2003. 'Jewellery and Ornaments', in W. Rast and R.T. Schaub, *Bâb edh-Dhrâ: excavations at the town site (1975-1981)* (Winona Lake): 566-98.
- Brugsch, H-K. 1881. *Geschichte Aegyptens unter den Pharaonen*, 2nd ed. (London).
- Brunton, G. 1927. *Qau and Badari, I* (London).
- . 1928. *Qau and Badari, II* (London).
- . 1937. *Mostagedda and the Tasian Culture* (London).
- . 1948. *Matmar* (London).
- Brunton, G. and Caton-Thompson, G. 1928. *The Badarian Civilization* (London).
- Bruyère, B., Manteuffel, K., Michalowski, K., and Sainte Fare Garnot, J. 1937. *Tell Edfou 1937. Fouilles Franco-Polonaises. Rapports, I* (Cairo).
- Bryan, B. 1996. 'Art, Empire, and the End of the late Bronze Age', in J.S. Cooper and G.M. Schwartz (eds), *The Study of the Ancient Near East in the Twenty-First Century. The William Foxwell Albright Centennial Conference* (Winona Lake): 33-79.

- Cagle, A. 2003. *The Spatial Structure of Kom el-Hisn: an Old Kingdom town in the Western Nile Delta, Egypt* (Oxford).
- Callaway, J.A. 1972. *The Early Bronze Age Sanctuary at Ai (et-Tell)* (London).
- . 1978. 'New Perspectives on Early Bronze III in Canaan', in R. Moorey and P. Parr (eds), *Archaeology in the Levant. Essays for Kathleen Kenyon* (Warminster): 46-58.
- . 1980. *The Early Bronze Age Citadel and Lower City at Ai (et-Tell)* (Cambridge, MA).
- Carter, H. and Mace, A.C. 1933. *The Tomb of Tut-Ankh-Amen discovered by the late Earl of Carnarvon and Howard Carter, III* (London).
- Caton-Thompson, G. and Gardner, E.W. 1934. *The Desert Fayum* (London).
- Caubet, A. 1991. 'Répertoire de la vaisselle de pierre', in M. Yon et al. (eds), *Arts et industries de la pierre. Ras Shamra-Ugarit*, VI (Paris): 205-63.
- Caubet, A. and Poplin, F. 1987. 'Les objets de matière dure animale: étude de matériau', in M. Yon (ed.), *Ras Shamra-Ugarit*, III (Paris): 237-306.
- Chéhab, M. 1968. 'Relations entre l'Égypte et la Phénicie et des origines à Oun-Amun', in W. Ward (ed.), *The Role of the Phoenicians in the Interaction of Mediterranean Civilizations. Papers Presented at the American University of Beirut, March 1967* (Beirut): 1-8.
- . 1969. 'Noms de personnalités égyptiennes découverts au Liban', *BMB* 22: 1-47.
- Cherpion, N. 1989. *Mastabas et hypogées d'Ancient Empire: le problème de la datation* (Brussels).
- Chevereau, P. 1987. 'Contribution à la Prosopographie des cadres militaires de l'Ancien Empire et de la Première Période Intermédiaire', *RdÉ* 38: 13-48.
- Ciałowicz, K. 1989. 'Predynastic Mace-heads in the Nile Valley', in L. Krzyżanick and M. Kobusiewicz (eds), *Late Prehistory of the Nile Basin and the Sahara* (Poznan): 261-66.
- Collins, S. 2006. 'The British Museum Excavations (1998-2000) in Sidon, Lebanon', *5th International Congress on the Archaeology of the Ancient Near East, Madrid 3-8 April 2006. Abstracts* (Madrid): 14-5.
- Commenge, C. and Alon, D. 2002. 'Competitive Innovation and Expanded Horizons: Exploring the Nature of Interaction between Northern Negev and Lower Egypt (c. 4500-3600 BCE)', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 139-53.
- Connan, J., Nissenbaum, A. and Dessort, D. 1992. 'Molecular Archaeology: Export of Dead Sea Asphalt to Canaan and Egypt in the Chalcolithic-Early Bronze Age 4th-3rd Millennium BC', *Geochimica et Cosmochimica Acta* 56: 2743-54.
- de Contenson, H. 1969. 'Les Couches du Niveau III au sud de l'Acropole de Ras Shamra', *Ugaritica* 6: 45-89.
- . 1989. 'Rapports entre la Palestine et Ras Shamra-Ugarit au Bronze Ancien', in P. de Miroschedji (ed.), *L'urbanisation de la Palestine à l'âge du Bronze ancien*, II (BAR International Series 527, Part 2, Oxford): 317-29.

- Corteggiani, J-P. 1987. *The Egypt of the Pharaohs at the Cairo Museum* (Paris).
- Couroyer, B. 1971. 'Ceux-qui-sont-sur-le-sable: Les Heriou-Sha', *RB* 78: 558-75.
- de Cree, F. 1991. 'Mutatis Mutandis: Egyptian Relations with Palestine in the Chalcolithic and Early Bronze Age I-IV', *GM* 124: 21-42.
- Crowfoot Payne, J. 1968. 'Lapis lazuli in early Egypt', *Iraq* 30: 58-61.
- Currid, J.D. 1986. 'The Beehive Buildings of Ancient Palestine', *BA* 49: 20-4.
- Dahlberg, B.T. and O'Connell, K.G. 1989. *Tell el-Hesi. The Site and the Expedition* (Winona Lake).
- D'Auria, S., Lacovara, P., Roehrig, C.H. 1988. *Mummies and Magic. Funerary Arts of Ancient Egypt* (Boston).
- Davies, N. de G. 1943. *The Tomb of Rekh-mi-re at Thebes, I-II* (Metropolitan Museum of Art Expedition, New York).
- Davies, W.V. 1995. 'Ancient Egyptian Timber Imports: An Analysis of Wooden Coffins in the British Museum', in W.V. Davies and L. Schofield (eds), *Egypt, the Aegean and the Levant. Interconnections in the Second Millennium BC* (London): 146-56.
- Davis, S.J.M. n.d. 'More Animal Bones from Tell Yarmouth: an Early Bronze Age site in Israel', in P. de Miroschedji et al., *Yarmouth II. Rapport sur les quatrième, cinquième, sixième et septième campagnes de fouilles à Tel Yarmouth (Israël)* (Paris, forthcoming).
- Dessel, J.P. 1991. *Ceramic Production and Social Complexity in Fourth Millennium Canaan. A Case Study from the Halif Terrace* (unpublished PhD dissertation, University of Arizona).
- Dever, W.G. 1973. 'The EB IV and MB I Horizon in Transjordan and Southern Palestine', *BASOR* 210: 37-63.
- . 1980. 'New Vistas on the EB IV ('MB I') Horizon in Syria-Palestine', *BASOR* 237: 35-64.
- Dever, W.G. and Richard, S. 1977. 'A Reevaluation of Tell Beit Mirsim Stratum J', *BASOR* 226: 1-14.
- Dixon, J.E., Cann, J.R. and Renfrew, C. 1976. 'Obsidian Characterization Studies in the Mediterranean and Near East', in R. Taylor (ed.), *Advances in Obsidian Glass Studies* (New York): 288-333.
- . 1979. 'Obsidian and the origins of trade', in C.C. Lamberg-Karlovsky (ed.), *Hunters, Farmers and Civilizations: Old World Archaeology* (San Francisco): 108-16.
- Dothan, M. 1957. 'Excavations at Meser 1956: Preliminary Report on the First Season', *IEJ* 7: 217-28.
- Dreyer, G. 1986. *Elephantine VIII. Der Tempel Der Satet* (Mainz).
- . 1993. 'A Hundred Years at Abydos', *EA* 3: 10-12.
- Dreyer, G., Hartmann, R., Hartung, U., Hikade, T., Köpp, H., Lacher, C., Müller, V., Nerlich, A., Zink, A. 2003. 'Umm el-Gaab. Nachuntersuchungen in frühzeitlichen Königsfriedhof 13./14./15. Vorbericht', *MDAIK* 59: 16-138.

- Dreyer, G., Hartung, U., Pumpenmeier, F., Feindt, F., and Fischer, M. 1998. *Umm el-Gaab I. Das prädynastische Königsgrab U-j und seine frühen Schriftzeugnisse* (AVDAIK 86, Mainz).
- Drioton, E. 1943. 'Description sommaire des Chapelles funéraires de la Vie Dynastie récemment découvertes derrière le mastaba de Mérérouka à Saqqara', *ASAE* 43: 487-514.
- von Droste zu Hülshoff, V. and Schlick-Nolte, B. 1984. *Aegyptiaca Diversa*, Teil I (CAA, Mainz).
- Dunand, M. 1927. 'La cinquième campagne de fouilles de Byblos (mars-juin 1926)', *Syria* 8: 92-104.
- . 1939. *Fouilles de Byblos*, I (Paris).
- . 1958. *Fouilles de Byblos 1933-38*, II (Paris).
- Ebers, G. 1889. *Die Maasse und das Kapitel Über die Augenkrankheiten* (Leipzig).
- Edel, E. 1981. 'Ägyptische Namen für Vorderasiatische Orts-, Brug-, oder Flussbezeichnungen', *EI* 15: 10-11.
- Edwards, I.E.S. 1964. 'The Old Kingdom in Egypt and the beginning of the First Intermediate Period', *The Cambridge Ancient History*, I, Part 2, 2nd ed. (Cambridge): 145-207.
- Eggebrecht, A. 1986. *Das Alte Reich. Ägypten im Zeitalter der Pyramiden* (Mainz).
- Eichler, E. 1993. *Untersuchungen zum Expeditionswesen des ägyptischen Alten Reiches* (Wiesbaden).
- Eigner D. 2002. 'A Temple of the Old Kingdom at Tell Ibrahim Awad', *Ancient Egyptian Temple at Tell Ibrahim Awad: Excavations and Discoveries in the Nile Delta* (Moscow).
- Emery, W.B. 1938. *Excavations at Saqqara. The Tomb of Hemaka* (Cairo).
- . 1939. *Excavations at Saqqara 1937-1939. Hor-Aha* (Cairo).
- . 1949. *Great Tombs of the First Dynasty*, I (London).
- . 1954. *Great Tombs of the First Dynasty*, II (London).
- . 1958. *Great Tombs of the First Dynasty*, III (London).
- . 1961. *Archaic Egypt* (repr. 1987, Harmondsworth).
- . 1962. *A Funerary Repast in an Ancient Egyptian Tomb of the Archaic Period* (Leiden).
- Erman, A. 1882. 'Commentar zur Inschrift des Una', *ZÄS* 20: 1029.
- . 1900. 'Eine Reise nach Phönizien im 11. Jahrhundert v. Chr.', *ZÄS* 38: 1-14.
- Espinel, A.D. 2002. 'The Role of the Temple of Ba'alat Gebal as Intermediary between Egypt and Byblos during the Old Kingdom', *SAK* 30: 103-119.
- Esse, D. 1989. 'Secondary State Formation and Collapse in Early Bronze Age Palestine', in P. de Miroschedji (ed.), *L'urbanisation de la Palestine à l'âge du bronze ancien*, I (BAR International Series 527, Part 1, Oxford): 81-96.
- . 1991. *Subsistence, Trade, and Social Change in Early Bronze Age Palestine* (Chicago).

- Esse, D. and Hopke, P.K. 1986. 'Levantine Trade in the Early Bronze Age: From Pots to People', in J.S. Olin and M.J. Blackman (eds), *Proceedings of the 24th International Archaeometry Symposium* (Washington DC): 327-39.
- Evans, A. 1897. 'Further Discoveries of Cretan and Aegean Script and Libyan and Proto-Egyptian Comparisons', *JHS* 17: 327-95.
- . 1935. *The Palace of Minos*, Vol. 4, Part 2 (London).
- Evans, J. 1991. 'Organic Residues and their contribution to the understanding of Trade', in N.H. Gale (ed.), *Bronze Age Trade in the Mediterranean. Papers presented at the Conference held at Rewley House, Oxford, in December 1989* (Studies in Mediterranean Archaeology 90, Jonsered): 289-94.
- Fairservis, W.A., Weeks K.R. and Hoffman M.A. 1971-2. 'Preliminary report on the first two seasons at Hierakonpolis (Part V)', *JARCE* 9: 7-68.
- Faltings, D. 1989. 'Die Keramik aus den Grabungen an der nördlichen Pyramide des Snofru in Daschur', *MDAIK* 45: 133-54.
- Faulkner, R. 1940. 'Egyptian Sea-going Ships', *JEA* 26: 3-9.
- Finkelstein, I. 1995. *Living on the Fringe. The Archaeology and History of the Negev, Sinai and Neighbouring Regions in the Bronze and Iron Ages* (Monographs in Mediterranean Archaeology 6, Sheffield).
- Finkelstein, I. and Gophna, R. 1993. 'Settlement, Demographic and Economic Patterns in the Highlands of Palestine in the Chalcolithic and Early Bronze Periods and the Beginning of Urbanism', *BASOR* 289: 1-22.
- Finkelstein, I. and Ussushkin, D. 2006. 'Two Notes on Early Bronze Age Megiddo', in A.M. Maeir and P. de Miroschedji (eds), *'I will Speak Riddles of Ancient Times'. Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of his Sixtieth Birthday*, I (Winona Lake): 7-23.
- Finkelstein, I., Ussushkin, D. and Halpern, B. et al. 2000. *Megiddo III. The 1992-1996 Seasons* (Jerusalem).
- Firth, C.M. and Gunn, B. 1926. *Excavations at Saqqara. Teti Pyramid Cemeteries*, I-II (Cairo).
- Firth, C.M. and Quibell, J.E. 1936. *Excavations at Saqqara. The Step Pyramid*, I-II (Cairo).
- Fischer, H. 1959. 'A Scribe of the Army in a Saqqara Mastaba of the Early Fifth Dynasty', *JNES* 18: 233-72.
- . 1968. *Dendera in the Third Millennium BC* (New York).
- . 1991. 'Sur les routes de l'Ancien Empire', in D. Valbelle (ed.), *Mélanges Jacques Jean Clère* (Cahier de recherches de l'Institut de papyrologie et d'égyptologie de Lille No. 13, Lille): 59-64.
- Fischer, P. 2002. 'The Egyptian-Transjordanian Interaction during Predynastic and Protodynastic Times: The Evidence from Tell Abu al-Kharaz, Jordan Valley', in E.C.M. van den Brink and T. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 323-33.
- FitzGerald, G.M. 1935. 'The Earliest Pottery at Beth Shan', *Museum Journal* 24: 5-22.

- Foster, K. 1979. *Aegean Faience of the Bronze Age* (London).
- Foster, K.P. 1999. 'The Earliest Zoos and Gardens', *Scientific American* July 1/281: 48-55.
- Frankfort, H. 1924. *Mesopotamia, Syria and Egypt and their Earliest Interrelations*, I (Studies in Early Pottery of the Near East I. Royal Anthropological Institute Occasional Papers, Number 6, London).
- . 1926. 'Egypt and Syria in the First Intermediate Period', *JEA* 12: 80-99.
- . 1927. *Asia, Europe and the Aegean and their Earliest Interrelations* (Studies in Early Pottery of the Near East II. Royal Anthropological Institute Occasional Papers, Number 8, London).
- French, P. 1998. 'Ancient Egyptian Pottery: A Bane or a Blessing?', *BACE* 9: 27-33.
- Friedman, F.D. 1998. 'Faience: the Brilliance of Eternity', in F.D. Friedman (ed.), *Gifts of the Nile. Ancient Egyptian Faience* (London): 15-21.
- Friedman, R. 1996. 'The Ceremonial Centre at Hierakonpolis Locality HK29A', in J. Spencer (ed.), *Aspects of Early Egypt* (London): 16-35.
- Fuscaldo, P. 2000. *Tell el-Dab'a X. The Palace District of Avaris. The Pottery of the Hyksos Period and the New Kingdom (Areas H/III and H/VI. Part I: Locus 66)* (Vienna).
- Gaballa, G.A. 1976. *The Narrative in Egyptian Art* (Mainz).
- Gale, R., Gasson, P., Hepper, N., and Killen, G. 2000. 'Wood', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 334-71.
- Gale, N.H. and Stos-Gale, Z.A. 1981. 'Ancient Egyptian Silver', *JEA* 67 (1981): 103-15.
- Gardiner, A.H. 1961. *Egypt of the Pharaohs* (Oxford).
- . 1969. *The Admonitions of an Egyptian Sage* (Hildesheim).
- Gardiner, A.H., Peet, T. and Cerný, J. 1952-5. *The Inscriptions of the Sinai*, I-II, 2nd ed. (London).
- Garstang, J. 1904. *The Third Egyptian Dynasty* (Westminster).
- . 1932. 'Jericho: City and Necropolis, Second Report', *LAAA* 19: 3-54.
- Garstang, J., Ben-Dor, I. and FitzGerald, G.M. 1936. 'Jericho: City and Necropolis (Report for Sixth and Concluding Season, 1936)', *LAAA* 23: 67-100.
- Gates, M-H. 1988. 'Dialogues between Ancient Near Eastern Texts and the Archaeological Record: Test Cases from Bronze Age Syria', *BASOR* 270: 63-91.
- el-Gayar, E.S. and Jones, M.P. 1989. 'A Possible Source of Copper Ore Fragments found at the Old Kingdom Town of Buhen', *JEA* 75: 31-40.
- el-Gayar, E.S. and Rothenberg, B. 1995. 'Predynastic and Old Kingdom Copper Metallurgy in South Sinai', in *Proceedings of the First International Conference on Ancient Egyptian Mining and Metallurgy and Conservation of Metallic Artefacts, Cairo, Egypt 10-12 April 1995* (Cairo): 147-52.

- Genz, H. 1993. 'Zur bemalten Keramik der Frühbronzezeit II-III in Palastina', *ZDPV* 109: 1-19.
- . 2001. 'Early Bronze Age Pot Marks from Khirbat az-Zayraqūn: Some Aspects Concerning their Meaning', *Studies in the Archaeology and History of Jordan* 7: 217-28.
- Germer, R. 1985. *Flora des pharaonischen Ägypten* (Mainz).
- . 1986. 'Zeder', in W. Helck and W. Westendorf (eds), *LÄ VI*: 1357-78.
- . 1988. *Katalog der Altägyptischen pflanzenreste der Berliner Museum* (Wiesbaden).
- Giddy, L.L. 1987. *Egyptian Oases* (Warminster).
- Ginter, B., Kozłowski, J.K., Pawlikowski, M., and Sliwa, J. 1998. *Frühe Keramik und Kleinfunde aus El-Târif* (Mainz).
- Giveon, R. 1974. 'A Second Relief of Sekhemkhet in Sinai', *BASOR* 216: 17-20.
- . 1977. 'Inscriptions of Sahure and Sesostri I from Wadi Kharig (Sinai)', *BASOR* 226: 61-63.
- . 1978. 'Corrected Drawings of the Sahure and Sesostri I Inscriptions from the Wadi Kharig', *BASOR* 232: 76.
- . 1983. 'Two Officials of the Old Kingdom at Magarah (Southern Sinai)', *TA* 10: 49-51.
- Godron, G. 1990a. *Études sur l'Horus Den et Quelques problèmes de l'Égypte Archaique* (Cahiers d'Orientalisme 19, Geneva).
- . 1990b. 'La politique extérieure de l'Égypte sous les deux première dynasties', *Dialogues d'histoire ancienne* 16/1: 47-61.
- Goedicke, H. 1963a. *Königliche Dokumente aus dem alten Reich* (Wiesbaden).
- . 1963b. 'The Alleged Military Campaign in Southern Palestine in the reign of Pepi I (Sixth Dynasty)', *Revisti degli Studi Orientali* 38: 187-97.
- . 1963c. 'Seal of a Ruler of Byblos of the Third Millennium', *MDAIK* 19: 1-6.
- . 1964. 'Diplomatical Studies in the Old Kingdom', *JARCE* 3: 31-41.
- . 1966. 'The Cylinder Seal of a Ruler of Byblos Reconsidered', *JARCE* 5: 19-21.
- . 1971. *Re-Used Blocks from the Pyramid of Amenemhet I at Lisht* (New York).
- . 1978. 'Another Remark about the Byblos Cylinder Seal', *GM* 29: 23-4.
- Golden, J. 2002. 'The Origins of the Metals Trade in the Eastern Mediterranean: Social Organisation of Production in the Early Copper Industries', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 225-38.
- Goldman, H. 1954. 'The Relative Chronology of Southeastern Anatolia', in R.W. Ehrich (ed.), *Relative Chronologies in Old World Archaeology* (Chicago): 69-85.
- Goneim, M. 1957. *Horus Sekhemket. The Unfinished Step Pyramid at Saqqara*, I (Cairo).

- Gonen, R. 1992. 'The Chalcolithic Period', in A. Ben-Tor (ed.), *The Archaeology of Ancient Israel* (New Haven): 40-80.
- Gopher, A., Tsuk, T., Shalev, S., and Gophna, R. 1990. 'Earliest Gold Arefacts in the Levant', *Current Anthropology* 31: 436-43.
- Gophna, R. 1969. 'An Egyptian Flint Knife from Yavne-Yam', *Atiqot* 5: 80.
- . 1987. 'Egyptian Trading Posts in Southern Canaan at the Dawn of the Archaic Period', in A.F. Rainey (ed.), *Egypt, Israel and Sinai. Archaeological and Historical Relationships in the Biblical Period* (Tel Aviv): 13-21.
- . 1992. 'The Contacts between 'En Besor Oasis, Southern Canaan, and Egypt during the Late Predynastic and the Threshold of the First Dynasty: a Further Assessment', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 385-94.
- . 1995. 'Early Bronze Age Canaan: Some Spatial and Demographic Observations', in T. Levy (ed.), *The Archaeology of Society in the Holy Land* (London): 269-80.
- Gophna, R. and Gazit, D. 1985. 'The First Dynasty Egyptian Residence at 'En Besor', *TA* 12: 9-16.
- Gophna, R. and Lipschitz, N. 1996. 'The Ashkelon Trough Settlements in the Early Bronze Age I: New Evidence of Maritime Trade', *TA* 23: 143-53.
- Gophna, R. and Milevski, I. 2003. 'Feinan and the Mediterranean during the Early Bronze Age', *TA* 30: 222-28.
- Görsdorf, J., Dreyer, G. and Hartung, U. 1998. 'New (super 14) C dating of the archaic royal necropolis Umm el-Qaab at Abydos (Egypt)', *Radiocarbon* 40/2: 641-47.
- Grant, E. 1931. *Ain Shems Excavations (Palestine) 1928-1929-1930-1931* (Haverford).
- Grant, E. and Wright, G. 1938. *Ain Shems Excavations (Palestine) Part IV (Pottery)* (Haverford).
- Grave, P., Potts, D.T., Yassi, N., Reade, W., and Baily, G. 1996. 'Elemental Characterisation of Barbar ceramics from Tell Abraq', *AAE* 7: 177-87.
- Greenberg, R. and Eisenberg, E. 2002. 'Egypt, Bet Yerah and Early Canaanite Urbanization', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 213-22.
- Greenberg, R. and Porat, N. 1996. 'A Third Millennium Levantine Pottery Production Centre: Typology, Petrography, and Provenance of the Metallic Ware of Northern Israel and Adjacent Regions', *BASOR* 301: 5-24.
- Grimal, N. 1992. *A History of Ancient Egypt* (Oxford).
- Grimm, A. 1985. 'Das Fragment einer Liste Fremländerischer tiere, pflanzen und stadte aud dem Totentempel des Königs Djedkare-Asosi', *SAK* 12: 27-41.

- Grosser, D., Grünewald, R. and Kreissl, B. 1992. 'Holz-ein Wichtiger Werkstoff im Alten Ägypten', in S. Schoske (ed.), «Anch» *Blumen für das Leben* (Munich): 251-61.
- Gundlach, R. 1994. *Die Zwangsumsiedlung auswärtiger Bevölkerung als Mittel ägyptischer Politik bis zum Ende des Mittleren Reiches* (Forschungen zur Antiken Sklaverei, Band 26, Stuttgart).
- Gunn, B. 1928. 'Inscriptions from the Step Pyramid Site', *ASAE* 28: 153-74.
- van Haarlem, W. 1995. 'Temple Deposits at Tell Ibrahim Awad. A Preliminary Report', *GM* 148: 46-7.
- Haiman, M. 1996. 'Early Bronze Age IV Settlement Pattern of the Negev and Sinai Deserts: View from Small Marginal Temporary Sites', *BASOR* 303: 1-32.
- Hall, R. 1981. 'Fish net dresses in the Petrie Museum', *GM* 42: 37-43.
- . 1986. *Egyptian Textiles* (Aylesbury).
- Hallam, B.R., Warren, S.E. and Renfrew, C. 1976. 'Obsidian in the Western Mediterranean. Characterization by Neutron Activation Analysis and Optical Emission Spectroscopy', *Prehistoric Society Proceedings* 42: 85-110.
- Harrell, J.A. 1990. 'Misuse of the Term 'Alabaster' in Egyptology', *GM* 119: 37-42.
- Hartung, U. 1994. 'Bemerkungen zur Chronologie der Beziehungen Ägyptens zu Südkanaan in spätprädynastischer Zeit', *MDAIK* 50: 107-13.
- . 2001. *Umm el-Qaab. Importkeramik aus dem Friedhof U in Abydos (Umm el-Qaab) und die Beziehungen Ägyptens zu Vorderasien im 4. Jahrtausend v. Chr.* (Mainz am Rhein).
- . 2002. 'Imported Jars from Cemetery U at Abydos and the Relations between Egypt and Canaan in Predynastic Times', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 437-49.
- Harvey, J. 2001. *Wooden Statues of the Old Kingdom. A Typological Study* (Leiden).
- Hassan, F. 1988. 'The Predynastic of Egypt', *JWP* 2: 135-85.
- Hassan, S. 1932. *Excavations at Giza 1929-1930* (Oxford).
- . 1936. *Excavations at Giza 1930-1931* (Cairo).
- . 1938. 'Excavations at Saqqara 1937-1938', *ASAE* 38: 503-21.
- . 1941. *Excavations at Giza, III* (Cairo).
- . 1943. *Excavations at Giza, IV* (Cairo).
- . 1953. *Excavations at Giza 1935-1936. Mastabas of the Seventh Season and their Description, VII* (Cairo).
- . 1955. 'The Causeway of Wnisis at Saqqara', *ZÄS* 80: 136-39.
- Hauptmann, A., 2006. 'Mining archaeology and archaeometallurgy in the Wadi Arabah: the mining districts of Faynan and Timna', in P. Bienkowski and K. Galor (eds), *Crossing the Rift. Resources, routes, settlement patterns and interaction in the Wadi Arabah* (Levant Supplementary Series 3, Oxford): 125-33.

- Hauptmann, A. and Weisgerber, G. 1987. 'Archaeometallurgical and Mining - Archaeological Investigations in the Area of Feinan, Wadi 'Arabah (Jordan)', *ADAJ* 31: 419-37.
- Hauptmann, A., Begemann, F., and Schmitt-Strecker, S. 1999. 'Copper Objects from Arad – their Composition and Provenance', *BASOR* 314: 1-19.
- Hawass, Z. 1992. 'A Burial with an Unusual Plaster Mask', in R. Friedman, and B. Adams (eds), *The Followers of Horus. Studies dedicated to Michael Allen Hoffman* (Oxbow Monographs, Number 20, Oxford): 327-36.
- , 1995. 'Programs of Royal Funerary Complexes of the Fourth Dynasty', in D. O'Connor and D. Silverman (eds), *Ancient Egyptian Kingship* (Leiden): 221-62.
- Helck, W. 1954. *Untersuchungen zu den Beamtentiteln des ägyptischen Alten Reiches* (Glückstadt, 1954).
- , 1971. *Die Beziehungen Ägyptens zu Vorderasien im 3. Und 2. Jahrtausend v. Chr.*, 2nd ed. (Wiesbaden).
- , 1979. 'Einige Betrachtungen zu den frühesten Beziehungen zwischen Ägypten und Vorderasien', *UF* 11: 357-63.
- , 1980. 'Maße und Gewichte', *LÄ* III (Wiesbaden): 1199-1210.
- , 1994. 'Byblos und Ägypten', in E. Acquaro, F. Mazza, S. Ribichini and G. Scandone (eds), *Biblio. Una città e la sua cultura. Atti del Colloquio Internazionale, Roma, 5-7 dicembre 1990* (Collezione di Studi Fenici 34, Rome): 105-11.
- Helms, S. 1989. 'An EB IV Pottery Repertoire at Amman, Jordan', *BASOR* 273: 17-36.
- Hendrickx, S. 1994. *Antiquités préhistoriques et protodynastiques d'Égypte* (Brussels).
- , 1996. 'The Relative Chronology of the Naqada Culture. Problems and Possibilities', in J. Spencer (ed.), *Aspects of Early Egypt* (London): 36-69.
- Hendrickx, S. and Bavay, L. 2002. 'The Relative Chronological Position of Egyptian Predynastic and Early Dynastic Tombs with Objects Imported from the Near East and the Nature of Interregional Contacts', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 58-80.
- Hendrickx, S., Bielen, S., de Paepe P. 2001. 'Excavating in the Museum: The Stone Vessel Fragments from the Royal Tombs at Umm el-Qaab in the Egyptian Collection of the Royal Museums for Art and History at Brussels', *MDAIK* 57: 73-108.
- Hennessy, J.B. 1967. *The Foreign Relations of Palestine during the Early Bronze Age* (London).
- Hennessy, J.B. and Millett, A. 1963. 'Spectrographic Analysis of the Foreign Pottery from the Royal Tombs of Abydos and Early Bronze Age Pottery of Palestine', *Archaeometry* 6: 10-17.
- Hennessy, J.B., Eriksson, K.O. and Kehrberg, I.C. 1988. *Ayia Paraskevi and Vasilia. Excavations by J.R.B. Stewart* (Göteborg).

- Hepper, F.N. 1990. *Pharaoh's Flowers* (London).
- Herrmann, G. 1968. 'Lapis Lazuli: The Early Phases of its Trade', *Iraq* 30: 21-57.
- Hoffman, M. 1982. *The Predynastic of Hierakonpolis* (Cairo).
- . 1984. *Egypt before the Pharaohs* (London).
- Hoffmeier, J.K. 1992. 'The problem of 'History' in Egyptian Royal Inscriptions', in *IV Congresso Internazionale Di Egittologia Atti I* (Turin): 291-99.
- Holland, T.A. 1977. 'Preliminary Report on Excavations at Tell es-Sweyhat, Syria 1975', *Levant* 9: 36-65.
- Hölscher, U. 1912. *Das Grabdenkmal des Königs Chephren* (Leipzig).
- Hood, S. 1997. 'A Pair of Egyptian Seal Designs from Lemnos,' in J. Phillips, L. Bell and B.B. Williams (eds.), *Ancient Egypt, the Aegean, and the Near East: Studies in Honour of Martha Rhoads Bell*, I (San Antonio): 243-8.
- Horn, S. 1963. 'Byblos in Ancient Records', *Andrews University Seminar Studies* 1: 52-61.
- Houlihan, P. 1996. *The Animal World of the Pharaohs* (London/New York).
- Ilan, O. 2002. 'Egyptian Pottery from Small Tel Malhata and the Interrelations between the Egyptian 'Colony' in Southwest Palestine and the 'Canaanite' Arad Basin and Central Highlands', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 306-22.
- Ilan, O. and Sebanne, M. 1989. 'Copper Metallurgy, Trade and the Urbanisation of Southern Canaan in the Chalcolithic and Early Bronze Age', in P. de Miroschedji (ed.), *L'urbanisation de la Palestine à l'age du Bronze ancien*, I (BAR International Series 527, Part 1, Oxford): 139-62.
- Ingholt, H. 1934. *Rapport préliminaire sur la première campagne des fouilles de Hama* (Copenhagen).
- . 1940. *Rapport préliminaire sur sept campagnes de fouilles à Hama en Syrie (1932-1938)* (Copenhagen).
- Jacobs, P. 1996. 'A Cosmetic Palette from Early Bronze Age III at Tell Halif', in J. Seger (ed.), *Retrieving the Past. Essays on Archaeological Research and Method in Honor of Gus W. Van Beek* (Mississippi): 123-34.
- Jéquier, G. 1929. *Fouilles à Saqqarah. Tombeaux de particuliers contemporains de Pepi II* (Cairo).
- . 1933. *Fouilles à Saqqarah. Les Pyramides des reines Neit et Apout* (Cairo).
- . 1936. *Le monument funéraire de Pepi II, I-II* (Cairo).
- . 1941. *Le monument funéraire de Pepy II, III* (Cairo).
- Jidejian, N. 1968. *Byblos through the Ages* (Beirut).
- Joffe, A. 1991. 'EB I and the evolution of social complexity in the southern Levant', *JMA* 4: 3-58.
- . 1993. *Settlement and Society in the Early Bronze Age I and II, Southern Levant* (Sheffield).

- Junker, H. 1926. 'Sitzung der philosophisch-historischer Kalss vom 19. Mai', *Akademie der Wissenschaften in Wien* 12: 65-120.
- . 1928. 'Sitzung der philosophisch-historischer Kalss vom 23. Mai, 20. und 27. Juni und 4. Juli', *Akademie der Wissenschaften in Wien* 14-17: 146-264.
- . 1929. *Giza, I* (Vienna/Leipzig).
- . 1934. *Giza, II* (Vienna/Leipzig).
- . 1938. *Giza, III* (Vienna/Leipzig).
- . 1941. *Giza, V* (Vienna/Leipzig).
- . 1943. *Giza, VI* (Vienna/Leipzig).
- . 1944. *Giza, VII* (Vienna/Leipzig).
- . 1947. *Giza, VIII* (Vienna/Leipzig).
- . 1951. *Giza, X* (Vienna).
- Kaczmarczyk, A. and Hedges, R.E.M. 1983. *Ancient Egyptian Faience* (Warminster).
- Kadish, G. 1966. 'Old Kingdom Egyptian Activity in Nubia: Some Reconsiderations', *JEA* 52: 23-33.
- Kaiser, W. 1969. 'Die Tongefässe', in H. Ricke (ed.), *Das Sonnenheiligtum des Königs Userkaf* (Cairo): 49-82.
- Kamal, M. 1937. 'Two Unpublished Coffins in the Egyptian Museum', *ASAE* 37: 25-8.
- Kanawati, N. 1977. *The Egyptian Administration in the Old Kingdom. Evidence on its Economic Decline* (London).
- . 1980. *Governmental Reforms in Old Kingdom Egypt* (Warminster).
- Kanawati, N. and McFarlane, A. 1993. *Deshasha* (Australian Centre for Egyptology Reports 5, Sydney).
- Kansa, E. and Levy, T. 2002. 'Ceramics, Identity and the Role of the State: the View of Nahal Tillah', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 190-212.
- Kantor, H.J. 1942. 'The Early Relations of Egypt with Asia', *JNES* 1: 184-213.
- . 1956. 'Syro-Palestinian Ivories', *JNES* 15: 153-74.
- . 1992. 'The Relative Chronology of Egypt and its Foreign Correlations before the First Intermediate Period', in R.W. Ehrich (ed.), *Chronologies on Old World Archaeology* (Chicago): 3-21.
- Kaplan, M. 1980. *The Origin and Distribution of Tell el-Yahudiyeh Ware* (Studies in Mediterranean Archaeology 62, Göteborg).
- Kaplan, M. and Harbottle, G. 1982. 'Multi-disciplinary Analysis of Tell el Yahudiyeh Ware', *Archaeometry* 24/2: 127-42.
- Kaplony, P. 1963. *Die Inschriften der ägyptischen Frühzeit, I-III* (Ägyptologische Abhandlungen 8, Wiesbaden).
- . 1968. *Steingefässe mit Inschriften der Frühzeit und des Alten Reichs* (Bruxelles).

- . 2002. 'The Beth Yerah Jar Inscription', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 464-86.
- Karetsou, A. (ed.). 2000. *Kriti-Egyptos. Politismikoi Desmoi Trion Khilietion. Katalogos* (Athens).
- Kelley, A.L. 1976. *The Pottery of Ancient Egypt* (Toronto).
- Kemp, B.J. 1968. 'The Osiris Temple at Abydos', *MDAIK* 23: 138-55.
- . 1977. 'The Early Development of Towns in Egypt', *Antiquity* 51: 185-200.
- . 1983. 'Old Kingdom, Middle Kingdom and the Second Intermediate Period', in B. Trigger, B.J. Kemp and D. O'Connor (eds), *Ancient Egypt. A Social History* (Cambridge): 71-182.
- Kempinski, A. 1983. 'Early Bronze Age Urbanization of Palestine: Some Topics in a Debate', *IEJ* 33: 235-41.
- . 1989. 'Fortifications, Public Buildings and City Layout in the Early Bronze', in E. Netzer, A. Kempinski, and R. Reich (eds), *The Architecture of Ancient Israel* (Jerusalem): 68-80.
- . 1992. 'Reflections on the role of the Egyptians in the Shefelah of Palestine in light of recent soundings at Tell Erani', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 419-26.
- Kempinski, A. and Gilead, L. 1991. 'New Excavations at Tel Erani: A Preliminary Report of the 1985-88 Seasons', *TA* 18: 164-91.
- Kempinski, A. and Niemeier, W-D. 1991. *Excavations at Kabri. Preliminary Report of the 1989 Season* (Tel Aviv).
- Kenyon, K.M. 1960. *Excavations at Jericho I. The Tombs Excavated in 1952-1954* (London).
- . 1981. *Excavations at Jericho, III* (London).
- Kenyon, K.M. and Holland, T.A. 1982. *Excavations at Jericho. The Pottery Type Series and Other Finds, IV* (London).
- . 1983. *Excavations at Jericho. The Pottery Phases of the Tell and Other Finds, V* (London).
- Kirby, C.J., Orel, S.E. and Smith, S.T. 1998. 'Preliminary Report on the Survey of Kom el-Hisn, 1996', *JEA* 84: 23-43.
- el-Khouli, A. 1978. *Egyptian Stone Vessels. Predynastic Period to Dynasty III, I - III* (Mainz).
- Klasens, A. 1958. 'The Excavations of the Leiden Museum of Antiquities at Abu Roasch, Part 1', *OMRO* 39: 32-55.
- . 1960. 'The Excavations of the Leiden Museum of Antiquities at Abu Roasch, Part 2', *OMRO* 41: 61-94.
- . 1961. 'The Excavations of the Leiden Museum of Antiquities at Abu Roasch, Report of the Third Season: 1959, Part II, Cemetery M', *OMRO* 42: 108-28.

- Klemm, R. and Klemm, D. 1994. Chronologischer Abriss der antiken Goldgewinnung in der Ostwüste Ägyptens', *MDAIK* 50: 189-222.
- Knapp, B. 1991. 'Spice, Drugs, Grain and Grog: Organic Goods in Bronze Age East Mediterranean Trade', in N.H. Gale (ed.), *Bronze Age Trade in the Mediterranean. Papers presented at the Conference held at Rewley House, Oxford, in December 1989* (Studies in Mediterranean Archaeology 90, Jonsered): 21-68.
- Kochavi, M. 1981. 'The History and Archaeology of Aphek-Antipatris: A Biblical City in the Sharon Plain', *BA* 44: 75-86.
- Köhler, E.C. 1992. 'The Pre- and Early Dynastic Pottery of Tell el-Fara'in (Buto)', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 11-22.
- . 1998a. 'Excavations at Helwan: New Insights into Early Dynastic Stone Masonry', *BACE* 9: 65-72.
- . 1998b. *Tell el-Fara'in. Buto III. Die Keramik von der späten Naqada-Kultur bis zum frühen Alten Reich (Schichten III-VI)* (Mainz).
- . 2002. 'History or Ideology? New Reflections on the Narmer Palette and the Nature of Foreign Relations in Pre- and Early Dynastic Egypt', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 499-513.
- . 2004. 'On the Origins of Memphis - the New Excavations in the Early Dynastic Necropolis at Helwan', in S. Hendrickx, R.F. Friedman, K.M. Ciałowicz and M. Chłodnicki (eds), *Egypt and its Origins. Studies in Memory of Barbara Adams. Proceedings of the International Conference "Origin of the State. Predynastic and Early Dynastic Egypt", Kraków, 28th August - 1st September 2002* (Leuven): 295-315.
- Kormysheva, E. 1999. 'Report on the Activity of the Russian Archaeological Mission at Giza, Tomb G7948. East Field during the Season 1998', *ASAE* 74: 23-38.
- Krauss, R. 1999. 'Nh(h)-Öl=Oliveöl', *MDAIK* 55: 293-98.
- Kroeper, K. 1986/7. 'The Ceramics of the Pre/Early Dynastic Cemetery of Minshat Abu Omar', *BES* 8: 73-94.
- . 1988. 'The Excavations of the Munich East-Delta Expedition in Minshat Abu Omar', in E.C.M. van den Brink (ed.), *The Archaeology of the Nile Delta. Problems and Priorities* (Amsterdam): 11-46.
- . 1996. 'Minshat Abu Omar: Burials with Palettes', in J. Spencer (ed.), *Aspects of Early Egypt* (London): 70-92.
- Krzyszkowska, O. 1984. 'Ivory from a hippopotamus tusk in the Aegean Bronze Age', *Antiquity* 58: 123-5.
- . 1988. 'Ivory in the Aegean Bronze Age: Elephant Tusk or Hippotamus Ivory', *ABSA* 83: 209-34.

- . 1990. *Ivory and Related Materials. An Illustrated Guide* (Classical Handbook 3, Bulletin Supplement 59, London).
- Krzyszkowska, O. and Morkot, R. 2000. 'Ivory and Related Materials', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 320-31.
- Lacovara, P. 1991. 'The Stone Vase Deposit at Kerma', in W.V. Davies (ed.), *Egypt and Africa. Nubia from Prehistory to Islam* (London): 118-28.
- Lambrou-Phillipson, C. 1990. *Hellenorientalia: the Near Eastern presence in the Bronze Age Aegean, ca. 3000-1100 B.C.: interconnections based on the material record and the written evidence* (Göteborg).
- . 1991. 'Seafaring in the Bronze Age Mediterranean: the parameters involved in maritime travel', in R. Laffineur and L. Basch (eds), *Thalassa: l'égée préhistorique et al mer. Actes de la troisième Rencontre égéenne internationale de l'Université de Liège, Station de recherches sous-marines et océanographiques (StaReSo), Calvi, Corse (23-25 avril 1990)* (Aegaeum 7, Liège): 11-21.
- Lapp, N. 1989. 'Cylinder Seals and Impressions of the Third Millennium BC from the Dead Sea Plain', *BASOR* 273: 1-15.
- . 1995. 'Some Early Bronze Age Seal Impressions from the Dead Sea Plain and their Implications for Contacts in the Eastern Mediterranean', in S.J. Bourke and J.-P. Descoeudres (eds), *Trade, Contact and the Movement of Peoples in the Eastern Mediterranean. Studies in Honour of J. Basil Hennessy* (Sydney): 43-51.
- . 2003. 'Cylinder Seals, Impressions and Incised Sherds', in W. Rast and R.T. Schaub, *Bâb edh-Dhrâ: excavations at the town site (1975-1981)* (Winona Lake): 522-65.
- Lapp, P. 1970. 'Palestine in the Early Bronze Age', in J.A. Sanders (ed.), *Near Eastern Archaeology in the Twentieth Century: Essays in Honour of Nelson Glueck* (New York): 101-31.
- Lacau, P. and Lauer, J-Ph. 1959. *La pyramide à degrés IV. Inscriptions gravées sur les vases* (Cairo).
- . 1961. *La pyramide à degrés II. Inscriptions gravées sur les vases* (Cairo).
- . 1965. *La pyramide à degrés V. Inscriptions gravées sur les vases* (Cairo).
- Lauer, J-Ph. 1939. *Fouilles à Saqqarah: le pyramide à degrés* (Cairo).
- Lauer, J-Ph. and Leclant, J. 1969. 'Découverte des statues de prisonniers au temple de la Pyramide de Pépi I', *RdÉ* 21: 55-62.
- . 1972. *Le temple haut du temple complexe funéraire du roi Teti* (Cairo).
- Leclant, J. 1961. 'Découvertes de monuments égyptiens au égyptisants hors de la vallée du Nil 1955-1960', *Orientalia* 30: 391-406.
- . 1984. 'T.P. Pepi Ier, VII: Une nouvelle mention des *Fnhw* dans les textes des pyramides', *SAK* 11: 455-60.
- Lee, J. 2003. 'Worked Stones', in W. Rast and R.T. Schaub, *Bâb edh-Dhrâ: excavations at the town site (1975-1981)* (Winona Lake, Ind.): 622-37.

- Lehner, M. 1997. *The Complete Pyramids* (London).
- Levy, T., Adams, R.B. and Najjar, M. 2000. 'The Jabal Hamrat Fidan Regional Archaeology Project 2000: Excavations, Data Processing and Site Presentation', *Report submitted to the Department of Antiquities of Jordan* 8/8/2000.
- Levy, T., Alon, D., Smith, P., Yekutieli, Y., Rowan, Y., Goldberg, P., Porat, N., van den Brink, E., Witten, A.J., Golden, J., Grigson, C., Kansa, E., Dawson, L., Holl, A., Moreno, J. and Kersel, M. 1997. 'Egyptian-Canaanite Interaction at Nahal Tillah, Israel (ca. 4500-3000 BCE): An Interim Report on the 1994-1995 Excavations', *BASOR* 307:1-51.
- Levy, T. and van den Brink, E.C.M. 2002. 'Interaction Models, Egypt and the Levantine Periphery', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd millennium B.C.E.* (London/New York): 3-38.
- Levy, T., van den Brink, E., Goren, Y. and Alon, D. 1995. 'New light on King Narmer and the Protodynastic Egyptian Presence in Canaan', *BA* 58: 26-35.
- Lev-Yadun, S. and Gophna, R. 1992. 'Exportation of Plant Products from Canaan to Egypt in the Early Bronze I: A rejoinder to William A. Ward', *BASOR* 287: 89-90.
- Lichtheim, M. 1973. *Ancient Egyptian Literature I. The Old and Middle Kingdoms* (Berkeley).
- Lilyquist, C. 1995. *Egyptian Stone Vessels: Khian through Tuthmosis III* (New York).
- . 1996. 'Stone Vessels at Kamid el-Loz, Lebanon: Egyptian, Egyptianising, or Non-Egyptian? A Question at Sites from the Sudan to Iraq to the Greek Mainland', in R. Hachmann (ed.), *Kamid el-Loz, Vol. 16: 'Schatzhaus'-Studien* (Saarbrücker Beiträge zur Altertumskunde 59, Bonn): 133-73.
- . 1998. 'The Use of Ivories as Interpreters of Political History', *BASOR* 310: 25-33.
- Liphschitz, N., Gophna, R., Bonani, G. and Feldstein, A. 1996. 'Wild Olive (*Olea europaea*) stone from a Chalcolithic cave at Shoham, Israel and their implications', *TA* 23: 135-42.
- Liphschitz, N., Gophna, R., Hartman, M. and Biger, G. 1991. 'The beginning of olive (*Olea europaea*) cultivation in the Old World: a reassessment', *JAS* 18: 441-53.
- Lipke, P. 1984. *The Royal Ship of Cheops: A Retrospective Account of the Discovery, Restoration and Reconstruction* (BAR, Oxford).
- Lloyd, S. 1984. *The Archaeology of Mesopotamia* (London).
- van Loon, M.N. 1978. *Korucutepe* (Amsterdam).
- Loret, V. 1916. 'Quelques notes sur l'arbre 𐤀𐤍', *ASAE* 16: 33-51.
- Lorton, D. 1987. 'Egypt's Easternmost Delta before the New Kingdom', *DE* 7 (1987): 9-12.
- Loud, G. 1948. *Megiddo II. The Seasons of 1935-39* (Chicago).
- Lucas, A. 1931. "'Cedar"-tree products employed in mummification', *JEA* 17: 13-20.

- . 1936. 'The Wood of the Third Dynasty Plywood Coffin from Saqqara', *ASAE* 36: 1-4.
- . 1962. *Ancient Egyptian Materials and Industries*, 4th ed. (London).
- Lucas, A. and Harris, J. 1989. *Ancient Egyptian Materials and Industries* (London).
- MacDonald, B. 2006. 'The Southern Ghors and north-east Arabah: resources, sites and routes', in P. Bienkowski and K. Galor (eds), *Crossing the Rift. Resources, routes, settlement patterns and interaction in the Wadi Arabah* (Levant Supplementary Series 3, Oxford): 75-90.
- Mace, A.C. 1909. *The Early Dynastic Cemeteries of Naga-ed-Dêr*, II (Leipzig).
- McFarlane, A. 2003. *Mastabas at Saqqara. Kaiemhesit, Kaipunesut, Kaiemsenu, Sehetepu and others* (Oxford, 2003).
- MacDonald, E., Starkey, J.L., and Harding, L. 1932. *Beth-Pelet*, II (London).
- McGovern, P. 1997. 'Wine of Egypt's Golden Age: An Archaeo-chemical Perspective', *JEA* 83: 69-108.
- McGovern, P., Hartung, U., Badlet, V.R., Glusker, D.L., Exner L.J. 1997. 'The Beginnings of Winemaking and Viniculture in the Ancient Near East and Egypt', *Expedition* 39/1: 3-21.
- McGrail, S. 1991. 'Bronze Age Seafaring in the Mediterranean: a View from NW Europe', in N.H. Gale (ed.), *Bronze Age Trade in the Mediterranean. Papers presented at the Conference held at Rewley House, Oxford, in December 1989* (Studies in Mediterranean Archaeology 90, Jonsered): 83-91.
- Macramallah, R. 1935. *Fouilles à Saqqarah. Le Mastaba D'Idout* (Cairo).
- . 1940. *Un cimetière archaïque de la classe moyenne du peuple à Saqqarah* (Cairo).
- Maisler, B. 1942. 'An Early Bronze Age Tomb found at Kinnereth', *BJPES* 10: 1-9.
- . 1952. 'Excavations at Beth Yerah (Khirbet el-Kerak) 1944-1946', *IEJ* 2: 218-29.
- Mallon, P. 1925. 'Une hache égyptienne trouvée en Syrie', *Melanges de l'université Saint Joseph de Beyrouth* 10: 51-4.
- Manniche, L. 1999. *Sacred Luxuries. Fragrance, Aromatherapy and Cosmetics in Ancient Egypt* (London).
- Marcus, E. 2002. 'Early Seafaring and Maritime Activity in the Southern Levant from Prehistory through the Third Millennium BCE,' in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 403-17.
- Marfoe, L. 1987. 'Cedar forest to silver mountain: social change and the development of long-distance trade in early Near Eastern societies', in M. Rowlands, M. Larsen and K. Kristiansen (eds), *Centre and Periphery in the Ancient World* (1987): 25-35.
- Marinatos, S. 1946. 'Greniers de l'helladique ancien', *BCH* 70: 337-51.
- Marquet-Krause, J. 1949. *Les Fouilles de 'Ay (et-Tell) 1933-1935* (Paris).
- Martin-Pardey, E. 1991. *Grabbeigaben, Nachträge und Ergänzungen. CVA Pelizaeus-Museum Hildesheim*, 6 (Mainz).

- Matthiae, P. 1988. 'On the Economic Foundations of the Early Syrian Culture of Ebla', *Wirtschaft und Gesellschaft von Ebla. Akten der internationalen Tagung Heidelberg 4-7 November 1986* (Heidelberg): 75-80.
- Mazar, A. 1992. *Archaeology of the land of the Bible – 10,000-586 B.C.E.* (New York).
- Mazar, B., Amiran, R. and Haas, N. 1973. 'An Early Bronze Age II Tomb at Beth Yerah (Kinneret)', *EI* 11: 176-93.
- Mazzoni, S. 1985. 'Giza ed una produzione vascolare di Biblio', in S.F. Bondi, S. Pernigotti, F. Serra, and A. Vivian (eds), *Studi in Onore di Edda Bresciani* (Pisa): 317-35.
- Meiggs, R. 1984. *Trees and Timber in the Ancient Mediterranean World* (repr., London).
- Melas, M. 1991. 'Mediterranean Trade in the Bronze Age - a Theoretical Perspective', in N.H. Gale (ed.), *Bronze Age Trade in the Mediterranean. Papers presented at the Conference held at Rewley House, Oxford, in December 1989* (Studies in Mediterranean Archaeology 90, Jonsered): 387-98.
- Mellaart, J. 1959. 'The Royal Treasure of Dorak: A First and Exclusive Report of a Clandestine Excavation which led to the most Important Discovery since the Royal Tombs of Ur', *ILN* 235, nr. 6278 (28 November 1959): 754.
- Michalowski, K., Desroches, C., De Linage, J., Manteuffel, J. and Zejmo-Zejmis, M. 1950. *Tel Edfou 1939. Fouilles Franco-Polonaises. Rapports*, III (Cairo).
- Milano, L. 1995. 'Ebla. A Third Millennium City-State in Ancient Syria', in J.M. Sasson (ed.), *Civilizations of the Ancient Near East*, II (New York): 1219-30.
- Minault-Gout, A., Deleuze, P., Ballet, P. and Wuttmann, M. 1992. *Balat II. Le mastaba d'Ima-Pepi* (IFAO, Fouille de l'Institute 33, Cairo).
- de Miroshedji, P. 1976. *Contribution à l'étude de urbanisation en Palestine à l'âge du Bronze ancien I and II* (unpublished PhD dissertation, Paris).
- . 1988. *Yarmouth I. Rapport sur les trois premières campagnes de fouilles à Tel Yarmouth (Israel) (1980-1982)* (Editions recherches sur les civilisations, Number 76, Paris).
- . 1989. 'Le Processus d'urbanisation en Palestine au bronze ancien: Chronologie et Rythmes', in P. de Miroshedji (ed.), *L'urbanisation de la Palestine à l'âge du bronze ancien*, I (BAR International Series 527, Part 1, Oxford): 63-79.
- . 1990. 'The Early Bronze Age Fortifications at Tel Yarmut: An Interim Statement', in A. Eitan, R. Gophna, R. and M. Kochavi (eds), *EI* 21: 48-61.
- . 1993. 'Fouilles récentes à Tel Yarmouth, Israël (1989-1993)', *CRAI*: 823-47.
- . 1998. 'Les Égyptiens au Sinaï du nord et en Palestine au Bronze ancien', in D. Valbelle and C. Bonnet (eds), *Le Sinaï durant l'antiquité et le moyen âge: 4,000 ans d'histoire pour un désert. Actes du colloque «Sinaï» qui s'est tenu à l'UNESCO du 19 au 21 septembre 1997* (Paris): 20-32.
- . 1999. 'Yarmouth: the Dawn of City-States in Southern Canaan', *Near Eastern Archaeology* 62: 2-19.

- . 2001a. 'Gaza et l'Égypte de l'Époque prédynastique à l'ancien empire premiers resultants des fouilles de Tell es-Sakan', *BSFE* 152: 28-52.
- . 2001b. 'Notes on Early Bronze Age Metrology and the Birth of Architecture in Ancient Palestine', in S.R. Wolff (ed.), *Studies in the Archaeology of Israel and Neighbouring Lands in Memory of Douglas L. Esse* (Chicago): 465-91.
- . 2002. 'The Socio-political Dynamics of Egyptian-Canaanite Interaction in the Early Bronze Age', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 39-57.
- . 2006. 'At the Dawn of History: Sociopolitical Developments in Southwestern Canaan in Early Bronze Age III', in A.M. Maeir and P. de Miroschedji (eds), *I will Speak Riddles of Ancient Times'. Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of his Sixtieth Birthday*, I (Winona Lake): 55-78.
- . n.d. *Yarmouth II. Rapport sur les quatrième, cinquième, sixième et septième campagnes de fouilles à Tel Yarmouth (Israël)* (Paris, forthcoming).
- Möllers, G. and Scharff, A. 1926. *Die Archaeologischen Ergebnisse des Vorgeschichtlichen Gräberfeldes von Abusir el-Meleq* (Leipzig).
- Moorey, R. 1994. *Ancient Mesopotamian Materials and Industries. The Archaeological Evidence* (Oxford).
- Montet, P. 1923. 'Les pays de Negaou près de Byblos et son dieu', *Syria* 4: 180-2.
- . 1928. *Byblos et L'Égypte. Quatre campagnes de fouilles à Gebeil, 1921, 1922, 1923, 1924* (Paris).
- . 1929. 'Sur quelques objets provenant de Byblos', *Syria* 10: 12-15.
- . 1939. 'La roi Sahurê et la Princesse lointaine', *Mélanges offerts a Monsieur René Dussaud*, I (Paris): 191-5.
- . 1962. 'Notes et documents pour servir à l'histoire des relations entre l'Égypte et la Syrie', *Kemi* 16: 76-96.
- . 1964. 'Notes et documents pour servir à l'histoire des relations entre l'Égypte et la Syrie', *Kemi* 17: 61-8.
- Moran, W.L. 1992. *The Amarna Letters* (Baltimore).
- de Morgan, J. 1898/9. *Catalogue des monuments et inscriptions*, I (Paris).
- Moussa, A.M. and Altenmüller, H. 1977. *Das Grab des Nianchchum und Chnumhotep* (Mainz).
- Muhly, J. 1973. *Copper and Tin. The Distribution of Mineral Resources and the Nature of the Metal Trade in the Bronze Age* (New Haven).
- . 1995. 'Mining and Metalwork in Ancient Western Asia', in J. Sasson (ed.), *Civilizations of the Ancient Near East*, III (New York): 1501-21.
- Müller-Wollermann, R. 1983. 'Bemerkungen zu den Sogenannten Tributen', *GM* 66: 81-93.

- Mumford, G. 2006. 'Tell Ras Budran (Site 345): Defining Egypt's Eastern Frontier and Mining Operations in South Sinai during the Late Old Kingdom (Early EB IV/MB I)', *BASOR* 342: 13-67.
- Mumford, G. and Parcak, S. 2003. 'Pharaonic Ventures into South Sinai: El-Markha Plain Site 346', *JEA* 89: 83-116.
- Murray, M-A. 2000. 'Fruits, Vegetables, Pulses and Condiments', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 609-55.
- Murray, M-A., Boulton, N. and Heron, C. 2000. 'Viticulture and Wine Production', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 577-608.
- Needler, W. 1984. *Predynastic and Archaic Egypt in the Brooklyn Museum* (New York).
- Negbi, O. 1972. 'Contacts between Byblos and Cyprus at the End of the Third Millennium BC', *Levant* 4: 98-100.
- Nelson, H. 1934. 'Fragments of Old Egyptian Stone Vases from Byblos', *BERYTUS* 1: 19-22.
- Newberry, P. 1938. 'Three Old Kingdom Travellers to Byblos and Pwenet', *JEA* 24: 182-4.
- Nicholson, P.T. and Peltenberg, E. 2000. 'Egyptian Faience', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 177-94.
- Nibbi, A. 1990. *Ancient Egypt and Some Eastern Neighbours* (New York).
- . 1994. 'Some Remarks on the Cedar of Lebanon', *DE* 28: 34-52.
- . 1996. 'Cedar Again', *DE* 34: 37-59.
- Nordström, H. 1972. *Neolithic and A-Group Sites. Joint Scandinavian Expedition to Sudanese Nubia*, 3:1-2 (Uppsala).
- Nour, M.Z., Iskander, Z., Osman, M.S., and Moustafa, A.Y. 1960. *The Cheops Boat*, I (Cairo).
- O'Connor, D. 1987. 'The Earliest Pharaohs and the University Museum. Old and New Excavations: 1900-1987', *Expedition* 29/1: 27-39.
- Ogden, J. 2000. 'Metals', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 148-76.
- Ogden, J.R. 1982. 'Studies in Archaic Epigraphy III', *GM* 60: 81-4.
- Op de Beeck, L. 2000. 'Restrictions for the Use of Maidum-bowls as Chronological Indicators', *CdÉ* 75: 5-14.
- Oren, E.D. 1989. 'Early Bronze Age Settlement on Northern Sinai: A Model for Egypto-Canaanite Interconnections', in P. de Miroschedji (ed.), *L'urbanisation de la Palestine à l'âge du Bronze ancien*, II (BAR International Series 527, Part 2, Oxford): 389-405.
- . 1993. 'Northern Sinai', in E. Stern (ed.), *The New Encyclopedia of Archaeological Excavations in the Holy Land*, IV (New York): 1386-96.
- Oren E. and Gilead, S. 1981. 'Chalcolithic sites in Northeastern Sinai', *TA* 8: 21-44.

- Oren, E. and Yekutieli, Y. 1990. 'North Sinai during the MBI period: Pastoral Nomadism and Sedentary Settlement', *EI* 21: 6-22.
- . 1992. 'Taur Ikhbeineh: Earliest Evidence for Egyptian Interconnections', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 361-4.
- Paice, P. 1989. 'The Pottery of Daily Life in Egypt', *JSSEA* 19: 50-83.
- Panagiotaki, M., Maniatis, Y., Kavoussanaki, G., Hatton, G. and Tite, M.S. 2004. 'The Production Technology of Aegean Bronze Age Vitreous Materials', in J. Bourriau and J. Phillips (eds), *Invention and Innovation. The Social Context of Technological Change 2: Egypt, the Aegean and the Near East, 1650-1150 BC* (Oxford): 149-75.
- Parcak, S. 2004. 'Egypt's Old Kingdom 'Empire' (?): A Case Study Focusing on South Sinai', in G.N. Knoppers and A. Hirsch, A. (eds), *Egypt, Israel and the Ancient Mediterranean World: Studies in Honor of Donald B. Redford* (Probleme der Ägyptologie 20, Brill): 21-40.
- Peltenburg, E. 1995. 'Kissonerga in Cyprus and the appearance of Faience in the Eastern Mediterranean', in S.J. Bourke and J-P. Descoeudres (eds), *Trade, Contact and the Movement of Peoples in the Eastern Mediterranean. Studies in Honour of J. Basil Hennessy* (Sydney): 31-41.
- Pendlebury, J.D.S. 1930. *Aegyptiaca* (Cambridge).
- Penny, N. 1993. *The Materials of Sculpture* (New Haven/London).
- Pernicka, E. and Hauptmann, A. 1989. 'Chemische und mineralogische Analyse einiger Etz- und Küperfunde von Maadi', in I. Rizkana and J. Seeher, *Maadi III. The Non-Lithic Small Finds and the Structural Remains of the Predynastic Settlement* (Mainz am Rhein): 137-40.
- Petrie, W.M.F. 1898. *Deshasheh* (London).
- . 1900. *Royal Tombs of the First Dynasty*, I (London).
- . 1901. *Royal Tombs of the Earliest Dynasties*, II (London).
- . 1902. *Abydos*, I (London).
- . 1903. *Abydos*, II (London).
- . 1906. *Researches in the Sinai* (London).
- . 1910. *Meydum and Memphis*, III (London).
- . 1914. *Tarkhan*, II (London).
- . 1917. *Scarabs and Cylinders with Names* (London).
- . 1925. *Tombs of the Courtiers and Oxyrhynchus* (London).
- . 1937. *Stone and Metal Vases* (London).
- Petrie, W.M.F. and Brunton, G. 1924. *Sedment*, I-II (London).
- Petrie, W.M.F. and Quibell, J.E. 1896. *Naqada and Ballas* (London).
- Petrie, W.M.F., Wainwright G.A. and Gardiner A.H. 1913. *Tarkhan I and Memphis*, V (London).

- Pettinato, G. 1991. *Ebla. A New Look at History* (Baltimore).
- Phillips, J. 1991a. 'Egypt in the Aegean during the Middle Kingdom', in S. Schoske (ed.), *Akten des vierten internationalen Ägyptologen-Kongresses München 1985* (SAK, Beiheft 4, Hamburg): 319-33.
- . 1991b. *The Impact and Implications of Egyptian and 'Egyptianised' Material found in Bronze Age Crete ca 3000 – 1100 BC* (unpublished PhD dissertation, University of Toronto).
- . 1992. 'Tomb Robbers and their Booty in Ancient Egypt', in S.E. Orel (ed.), *Death and Taxes in the Ancient Near East* (Lewiston): 158-92.
- . 1996. 'Aegypto-Aegean Relations up to the 2nd millennium BC', in L. Krzyzaniak, K. Kroeper and M. Kobusiewicz (eds), *Interregional Contacts in the later Prehistory of Northeastern Africa* (Poznan): 459-70.
- Piacentini, P. 1987. 'Egiziani e Asiatici su rilievo della VI dinastia a Deshasheh', *SEAP* 1: 7-27.
- . 1990. *L'autobiografia di Uni, principe e governatore dell'Alto Egitto* (Monografie di SEAP Series Minor 1, Pisa).
- Pinnock, F. 1984. 'Trade at Ebla', *Bulletin of the Society for Mesopotamian Studies* 7: 19-31.
- . 1985. 'About the Trade of Early Syrian Ebla', *Mari* 4: 85-92.
- . 1988. 'Observations on the Trade of Lapis Lazuli in the IIIrd Millennium BC', in H. Watzoldt and H. Hauptmann (eds), *Wirtschaft und Gesellschaft von Ebla. Akten der internationalen Tagung Heidelberg 4-7 November 1986* (Heidelberg): 107-10.
- Pomerance, L. 1977. 'The Possible Role of Tomb Robbers and Viziers of the 18th Dynasty in Confusing Minoan Chronology', in G. Carratelli and G. Rizza (eds), *Antichita Cretesi. Studi in Onore di Doro Levi*, I (Catania): 21-30.
- Porat, N. 1989. *Composition of Pottery. Application to the Study of the Interrelations between Canaan and Egypt during the Third Millennium B.C.* (unpublished PhD dissertation, Hebrew University, Jerusalem).
- . 1992. 'An Egyptian Colony in Southern Palestine during the Late Predynastic-Early Dynastic Period', in E.C.M. van den Brink (ed.), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 433-40.
- Porat, N. and Adams B. 1996. 'Imported Pottery with Potmarks from Abydos', in J. Spencer (ed.), *Aspects of Early Egypt* (London): 98-107.
- Porat, N. and Goren, Y. 2002. 'Petrography of the Naqada IIIa Canaanite Pottery from Tomb U-j at Abydos', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 252-70.
- Portugali, J. and Gophna, R. 1993. 'Crisis, Progress and Urbanisation: The Transition from Early Bronze Age I to Early Bronze Age II in Palestine', *TA* 20: 164-76.
- Posener-Kriéger, P. 1969. 'Sur un nom de métal égyptien', *Ugaritica* 6: 419-26.

- Posener-Kriéger, P. and de Cenival, J.L. 1968. *Hieratic Papyri in the British Museum* (London).
- Potts, T.F. 1989. 'Foreign Stone Vessels of the late Third Millennium BC from Southern Mesopotamia: Their Origins and Mechanisms of Exchange', *Iraq* 51: 123-64.
- Prag, K. 1978. 'Silver in the Levant in the Fourth Millennium B.C.', in B.B. Piotrovsky (ed.), *Archaeology in the Levant. Essays for Kathleen Kenyon* (Warminster): 36-45.
- . 1986. 'Byblos and Egypt in the Fourth Millennium BC', *Levant* 18: 59-74.
- Prausnitz, M.W. 1954. 'Abydos and Combed Ware', *PEQ* 86: 91-6.
- . 1969. 'The Excavations at Kabri', *EI* 9: 122-9.
- Priese, K.-H. 1991. *Ägyptisches Museum und Papyrussammlung* (Mainz).
- Quibell, J.E. 1898. *El Kab* (London).
- . 1900. *Hierakonpolis* (London).
- . 1909. *Excavations at Saqqara, 1907-08* (Cairo).
- . 1913. *Excavations at Saqqara 1911-12. The Tomb of Hesy* (Leipzig).
- Quibell, J.E. and Green, F.W. 1902. *Hierakonpolis, II* (London).
- Quibell, J.E. and Hayter, A.G.K. 1927. *Excavations at Saqqara. Teti Pyramid, North Side* (Cairo).
- Rast, W. 1979. 'Patterns of Settlement at Bab edh-Dhra', *AASOR* 46: 7-35.
- . 1980. 'Palestine in the 3rd Millennium: Evidence for Interconnections', *Scripta Mediterranea* 1: 5-20.
- Rast, W. and Schaub, R.T. 1974. 'Survey of the Southeastern Plain of the Dead Sea 1973', *ADAJ* 19: 5-53.
- . 1979. 'The Southeastern Dead Sea Plain Expedition: An Interim Report of the 1977 Season', *AASOR* 46:
- . 1980. 'Preliminary Report of the 1979 Expedition to the Dead Sea Plain, Jordan', *BASOR* 240: 21-61.
- . 2003. *Bâb edh-Dhrâ: excavations at the town site (1975-1981)* (Winona Lake).
- Redford, D. 1981. 'The Acquisition of Foreign Goods and Services in the Old Kingdom', *Scripta Mediterranea* 2: 5-16.
- . 1986a. 'Egypt and Western Asia in the Old Kingdom', *JARCE* 23: 125-43.
- . 1986b. *Pharaonic King-Lists, Annals and Day-Books* (Toronto).
- . 1992. *Egypt, Canaan and Israel in Ancient Times* (Cairo).
- Reese, D.S. 1985. 'The Kition Ostrich Eggshells', in V. Karageorghis (ed.), *Excavations at Kition VIII* (Nicosia): 341-82 (Appendix VIII B).
- . 1992. 'Shells from the 1986 Season', in B. MacDonald et al., *The Southern Ghors and Northeast Arabah Archaeological Survey* (Sheffield Archaeological Monographs, Sheffield): 155-6.

- Reisner, G.A. 1910. *The Archaeological Survey of Nubia. Report for 1907-1908*, I-II (Cairo).
- . 1915. 'Accessions to the Egyptian Department during 1914', *BBMFA* 13: 29-36.
- . 1931a. *Mycerinus* (Cambridge, MA).
- . 1931b. 'Stone Vessels found in Crete and Babylonia', *Antiquity* 5: 200-12.
- . 1932. *A Provincial Cemetery of the Pyramid Age. Naga-ed-Dêr*, III (Cambridge, MA).
- . 1942. *The History of the Giza Necropolis*, I (Cambridge, MA).
- Reisner, G.A. and Smith, W.S. 1955. *The History of the Giza Necropolis*, II (Cambridge, MA).
- Renfrew, C. 1975. 'Trade as Action at a Distance: Questions of Integration and Communication', in J. Sabloff and C.C. Lamberg-Karlovsky (eds), *Ancient Civilization and Trade* (Albuquerque): 3-60.
- Ribstein, W. 1925. 'Zur Kenntnis der im alten Ägypten verwendeten Hölzer', *Botanisches Archiv* 9:194-209.
- Richard, S. 1980. 'Toward a Consensus of Opinion on the end of the Early Bronze Age in Palestine-Transjordan', *BASOR* 237: 5-34.
- Rizkana, I. and Seeher, J. 1987. *Maadi I. The Pottery of the Predynastic Settlement* (Mainz am Rhein).
- . 1989. *Maadi III. The Non-Lithic Small Finds and the Structural Remains of the Predynastic Settlement* (Mainz am Rhein).
- Roccati, A. 1982. *La littérature historique sous l'ancien empire égyptien* (Paris).
- Roehrig, C. 1999. 'Egyptian Art at the Time of the Pyramids', *EA* 14: 21-4.
- Roth, A.M. 1994. 'The Practical Economics of Tomb-Building in the Old Kingdom: A Visit to the Necropolis in a Carrying Chair', in D.P. Silverman (ed.), *For His Ka: Essays Offered in memory of Klaus Baer* (Chicago): 227-40.
- Rothenberg, B. and Glass, J. 1992. 'The Beginnings and the Development of Early Metallurgy and the Settlement and Chronology of the Western Arabah, from the Chalcolithic Period to the Early Bronze Age', *Levant* 24: 141-57.
- Rothenberg, B., Tyler, R.F. and Boydell, P.J. 1978. *Chalcolithic Copper Smelting. Excavations at Timna Site 39* (London).
- Rowe, A. 1936. *A Catalogue of Egyptian Scarabs* (Cairo).
- . 1940. *The four Canaanite temples of Beth-Shan* (Philadelphia).
- Rowton, M.B. 1967. 'The Woodlands of Ancient Western Asia', *JNES* 26: 261-77.
- Rzeuska, T. 2001. 'West Saqqara. The Pottery', *PAM* 13: 153-6.
- . 2002. 'West Saqqara. The Pottery', *PAM* 14: 144-6.
- . 2003. 'West Saqqara. The Pottery', *PAM* 15: 134-5.
- Saad, Z.Y. 1947. *Royal Excavations at Saqqara and Helwan (1941-1945)* (Cairo).
- . 1957. *Ceiling Stelae in Second Dynasty Tombs from the Excavations at Helwan* (ASAE Suppl. Cahier 21, Cairo).
- Saghieh, M. 1983. *Byblos in the Third Millennium* (Warminster).

- Scandone Matthiae, G. 1979. 'Vasi iscritti di Chephren e Pepi I nel Palazzo Reale G di Ebla', *SEb* 1: 33-43.
- . 1979/80. 'Ebla et l'égypte à l'ancien et au moyen empire', *Annales archeologiques arabes syriennes* 29/30: 189-99.
- . 1981. 'I Vasi Egiziani in Pietra del Palazzo Reale G', *SEb* 4: 99-127.
- . 1988. 'Les relations entre Ebla et l'égypte au IIIème et au IIème millenaire av. J.-Chr.', in H. Waetzoldt and H. Hauptmann (eds), *Wirtschaft und Gesellschaft von Ebla. Akten der Internationalen Tagung Heidelberg 4-7 November 1986* (Heidelberg): 67-73.
- . 1994. 'La cultura egiziana a Biblio attraverso le testimonianze materiali', in E. Acquaro, F. Mazza, S. Ribichini, G. Scandone, P. Xella (eds), *Biblio. Una città e la sua cultura. Atti del Colloquio Internazionale, Roma, 5-7 dicembre 1990* (Collezione di Studi Fenici 34, Rome): 37-48.
- . 1997. 'Relations between Ebla and Egypt', in E. Oren (ed.), *The Hyksos: New Historical and Archaeological Perspectives* (University Museum Monograph 96, University Museum Symposium Series 8, Philadelphia): 415-27.
- Schaub, R.T. 1982. 'The Origins of the Early Bronze Age Walled Town Culture of Jordan', in A. Hadidi (ed.), *SHAJ* 1: 67-75.
- Schaub, R.T. and Rast W. 1984. 'Preliminary Report of the 1981 Expedition to the Dead Sea Plain, Jordan', *BASOR* 254: 35-60.
- . 1989. *Bab edh-Dhra'. Excavations in the Cemetery directed by Paul W. Lapp (1965-67)* (Winona Lake).
- Scheel, B. 1985. 'Studien zum Metallhanwerk im Alten Ägypten I. Handlungen und Beischriften in den Bildprogrammen der Gräber des Alten Reiches', *SAK* 12: 117-77.
- Schmidt, K. 1992. 'Tell el-Fara'in/Buto and Tell el-Iswid (south): The Lithic Industries from the Chalcolithic to the early Old Kingdom', in E.C.M. van den Brink (ed), *The Nile Delta in Transition. 4th-3rd Millennium B.C.: Proceedings of the seminar held in Cairo, 21-24 October 1990, at the Netherlands Institute of Archaeology and Arabic Studies* (Tel Aviv): 31-42.
- Schmitz, B. (ed.). 1996. *Untersuchungen zu Idu II, Giza Ein interdisziplinäres Projekt* (Hildesheimer Ägyptologische Beiträge 38, Hildsheim).
- Schneider, T. 1998. *Ausländer in Ägypten während des Mittleren Reiches und der Hyksoszeit, Teil I. Die ausländischen könige* (Ägypten und Altes Testament 42, Wiesbaden).
- Schott, S. 1965. 'Aufnahmen vom Hungersnotrelief aus dem aufweg der Unaspyramide', *RdÉ* 17: 7-13.
- Schulman, A.R. 1979. 'Beyond the Fringe: Sources for Old Kingdom Foreign Affairs', *JSSEA* 9/2: 79-104.
- . 1989. 'At the Fringe: The Historiography and Historicity of the Relations of Egypt and Canaan in the Early Bronze Age I', in P. de Miroschedji (ed.),

- L'urbanisation de la Palestine à l'âge du Bronze ancien*, II (BAR International Series 527, Part 2, Oxford): 433-53.
- Seager, R. 1912. *Explorations in the Island of Mochlos* (Boston/New York).
- Seger, J.D. 1990. 'The Bronze Age Settlements at Tell Halif: Phase II Excavations, 1983-1987' *BASOR Supplement* 26: 1-32.
- Seidlmayer, S. 1990. *Gräberfelder aus dem Übergang vom Alten zum Mittleren Reich: Studien zur Archäologie der Ersten Zwischenzeit* (Heidelberg).
- Seipel, W. 1992. *Gott, Mensch, Pharao* (Vienna).
- Sellin, E. 1904. *Tell Ta'anek* (Vienna).
- Sellin, E. and Watzinger, C. 1913. *Jericho: Die Ergebnisse der Ausgrabungen* (Leipzig).
- Serpico, M. 2000. 'Resins, Amber and Bitumen', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 430-74.
- Serpico, M. and White, R. 1996. 'A Report on the Analysis of Contents of a Cache of Jars from the Tomb of Djer', in J. Spencer (ed.), *Aspects of Early Egypt* (London): 128-39.
- . 2000. 'Oil, Fat and Wax', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 390-429.
- Sethe, K. 1906. 'Eine ägyptische Expedition nach dem Libanon im 15. Jahrhundert v. Chr.', *Sitzungsberichte der philosophisch-historischen Klasse vom 22. März 1906*: 356-63.
- . 1908-9. 'Zur ältesten Geschichte des ägyptischen Seeverkehrs mit Byblos und dem Libanongebiet', *ZÄS* 45: 7-14.
- . 1914. 'Hitherto Unnoticed Evidence Regarding Copper Works of Art of the Oldest Period of Egyptian History', *JEA* 1 (Part 4): 233-6.
- . 1917. 'Ein ägyptisches des Alten Reiches von der Insel Kythera mit dem Namen des Sonnenheiligums des Königs Userkaf', *ZÄS* 53: 55-8.
- . 1933. *Urkunden des Alten Reiches*, I, 2nd ed. (Leipzig).
- Sharvit, J., Galili, E., Rosen, B. and van den Brink, E.C.M. 2002. 'Predynastic Maritime Traffic along the Carmel Coast of Israel: a Submerged Find from North Atlit Bay', in E.C.M. van den Brink and E. Yannai (eds.), *In Quest of Ancient Settlements and Landscapes. Archaeological Studies in Honor of Ram Gophna* (Tel Aviv): 159-66.
- Shaw, I. and Nicholson, P. 1995. *British Museum Dictionary of Ancient Egypt* (London).
- . 2002. *British Museum Dictionary of Ancient Egypt*, repr. (London).
- Sherratt, A. and S. 1991. 'From Luxuries to Commodities. The Nature of Mediterranean Bronze Age Trading Systems', in N.H. Gale (ed.), *Bronze Age Trade in the Mediterranean. Papers presented at the Conference held at Rewley House, Oxford, in December 1989* (Studies in Mediterranean Archaeology 90, Jonsered): 351-86.

- Shinnie, P.L. 1991. 'Trade Routes of the Ancient Sudan 3,000 BC – AD 350', in W.V. Davies (ed.), *Egypt and Africa. Nubia from Prehistory to Islam* (London): 49-53.
- Silverman, D.P. 1995. 'The Nature of Egyptian Kingship' and the 'The Origins of Egyptian Kingship', in D. O'Connor and D. Silverman (eds), *Ancient Egyptian Kingship* (Leiden): 49-92.
- Sloley, R.W. 1953. 'Radiocarbon Dating', *JEA* 39: 115.
- Smith, H.S. and Giddy, L.L. 1985. 'Nubia and Dakhla Oasis in the late Third Millennium BC: The Present Balance of Textual and Archaeological Evidence', in F. Geus and F. Thill (eds), *Mélanges offerts à Jean Vercoutter* (Paris): 317-30.
- Smith, W.S. 1946. *A History of Egyptian Sculpture and Painting in the Old Kingdom* (London).
- . 1965a. *Interconnections in the Ancient Near East* (New Haven).
- . 1965b. *The Art and Architecture of Ancient Egypt* (London).
- . 1971. 'The Old Kingdom in Egypt and the Beginning of the First Intermediate Period', in I.E.S. Edwards, C.J. Gadd, and N.G.L. Hammond (eds), *The Cambridge Ancient History*, Vol. 1 Part 2, 3rd ed. (Cambridge): 145-207.
- Smyth, F. 1998. 'Égypte-Canaan: Quel commerce', in N. Grimal and B. Menu (eds), *Le Commerce en Égypte ancienne* (Bibliothèque d'Étude 121, Cairo): 5-18.
- Sowada, K. 1999. 'Black-topped Ware in Early Dynastic Contexts', *JEA* 85: 85-102.
- . 2000. 'Egyptian Palettes in EB II and EB III Canaan', in P. Matthiae et al. (eds), *Proceedings of the First International Conference on the Archaeology of the Ancient Near East* (Rome): 1527-36.
- . n.d. 'Aegyptiaca from Tel Yarmouth', in P. de Miroschedji et al., *Yarmouth II. Rapport sur les quatrième, cinquième, sixième et septième campagnes de fouilles à Tel Yarmouth (Israël)* (Paris, forthcoming).
- Sparks, R.T. 1996. 'Egyptian Stone Vessels in Syro-Palestine during the Second Millennium BC and their Impact on the Local Stone Vessel Industry', in G. Bunnens (ed.), *Cultural Interaction in the Ancient Near East* (Louvain): 52-66.
- . 1998. *Stone Vessels in the Levant during the second millennium BC: a study of the interaction between imported forms and local workshops* (unpublished PhD dissertation, University of Sydney).
- . 2003. 'Egyptian Stone Vessels and the Politics of Exchange (2617-1070 BC)', in R.J. Matthews and C. Roemer (eds), *Ancient Perspectives on Egypt* (London): 39-56.
- . 2007. *Stone Vessels in the Levant* (London).
- Spencer, A.J. 1980. *Catalogue of Egyptian Antiquities in the British Museum. V. Early Dynastic Objects* (London).
- . 1993. *Early Egypt. The Rise of Civilisation in the Nile Valley* (London).
- . 1996. *Aspects of Early Egypt* (London).

- Stadelmann, R. 1967. *Syrisch-Palästinensische Gottheiten in Ägypten* (Leiden).
- . 1982. 'Pyramiden, A.R.', *LÄ* IV: 1205-63.
- Stadelmann, R. and Alexanian, N. 1998. 'Die Friedhöfe des Alten und Mittleren Reiches in Dahschur', *MDAIK* 54: 293-317.
- Stager, L. 1985. 'The Firstfruits of Civilizations', in J.N. Tubb (ed.), *Palestine in the Bronze and Iron Ages: Papers in Honour of Olga Tufnell* (Occasional Publication 11, Institute of Archaeology, London): 172-88.
- . 1992. 'The Periodization of Palestine from Neolithic through Early Bronze Age Times', in R.W. Ehrich (ed.), *Chronologies in Old World Archaeology* (Chicago): 22-41.
- Stanley, J-D. 2002. 'Configuration of the Egypt-to-Canaan Coastal Margin and North Syria Byway in the Bronze Age', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 98-117.
- Steinmann, F. 1998. *Tongefässe von der Vordynastischen Zeit bis zum Ende des Mittleren Reiches* (Mainz).
- Stewart, J.R. 1939. 'An Imported Pot from Cyprus', *PEQ* 71: 162-8.
- . 1962. P. Dikaios and J.R.B. Stewart, *The Swedish Cyprus Expedition Volume IV Part IA, The Stone Age and the Early Bronze Age in Cyprus* (Lund).
- Täckholm, V. and G. 1941. *Flora of Egypt*, I (Bulletin of the Faculty of Science 17, Cairo).
- Tawab, A., Castel, G. and Pouit, G. 1990. 'Archéo-géologie des anciennes mines de cuivre et d'or des régions el-Urf/Mongul-sud et Dara-Ouest', *BIFAO* 90: 359-64.
- Thalmann, J-P. 2000. 'Tell Arqa', *BAAL* 4: 5-74.
- Torrence, R. 1986. *Production and Exchange of Stone Tools. Prehistoric Obsidian in the Aegean* (Cambridge).
- Trigger, B. 1987. 'Egypt: A Fledgling Nation', *JSSEA* 17: 58-66.
- . 1993. *Early Civilizations. Ancient Egypt in Context* (Cairo).
- Tubb, J. and Dorrell, P.G. 1993. 'Tell es-Sa'idiyeh 1992. Interim Report on the Sixth Season of Excavations', *PEQ* 125: 50-74.
- Tufnell, O. 1958. *Lachish IV. The Bronze Age* (Oxford).
- Ussishkin, D. 1980. 'The "Ghassulian" Shrine at En-Gedi', *TA* 7: 1-44.
- Vachala, B. 1991. 'Zur Frage der Kriegsgefangenen in Ägypten. Überlegungen anhand der schriftlichen Quellen des Alten Reiches', in E. Endesfelder (ed.), *Probleme der frühen Gesellschaftsentwicklung im Alten Ägypten* (Berlin): 93-101.
- Valbelle, D. 1990. *Les neuf arcs. L'égyptien et les étrangers de la préhistoire à la conquête d'Alexandre* (Paris).
- de Vartavan, C. and Aseni-Amorós, V. 1997. *Codex of Ancient Egyptian Plant Remains* (Triade Exploration's Opus Magnum Series in the Field of Egyptology 1, London).

- de Vaux, R. 1961. 'Les fouilles de Tell al-Far'ah, rapport preliminaire sur les 7^e, 8^e et 9^e campagnes 1958-1960', *RB* 68: 559-92.
- . 1971. 'Palestine in the Early Bronze Age', in I.E.S. Edwards, C.J. Gadd, and N.G.L. Hammond (eds), *The Cambridge Ancient History*, I, Part 2, 3rd ed. (Cambridge): 208-37.
- Vercoutter, J. 1954. *Essai sur les relations entre Égyptiens et Préhellènes* (Paris).
- . 1988. 'Le Sahara et l'Égypte pharaonique', *Sahara* 1: 9-19.
- Verner, M. 1978. 'Excavations at Abusir. Season 1976 Preliminary Report', *ZÄS* 105: 155-9.
- . 1985. 'Les statuettes de prisonniers en bois d'Abousir', *RdÉ* 36: 145-52.
- . 1988. 'Excavations at Abusir. Season 1985/1986 - Preliminary Report. The "Unfinished Pyramid"', *ZÄS* 115: 77-85.
- . 1994. *Forgotten Pharaohs, Lost Pyramids. Abusir* (Prague).
- Vlčková, P. 2006. *Stone Vessels from the Mortuary Complex of Raneferef at Abusir* (Prague).
- Vogelsang-Eastwood, G. 1993. *Pharaonic Egyptian Clothing* (Leiden).
- . 2000. 'Textiles', in P.T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge): 268-98.
- Wainwright, G.A. 1934. 'The Occurrence of Tin and Copper near Byblos', *JEA* 20: 29-32.
- Walting R.J., Herbert, H.K., Delev, D. and Abell, I.D. 1994. 'Gold Fingerprinting by Laser Ablation Inductively Coupled Plasma Mass Spectrometry', *Spectrochimica Acta* 49B, No. 2: 205-19.
- Ward, W. 1963. 'Egypt and the Eastern Mediterranean from Predynastic Times to the end of the Old Kingdom', *JESHO* 6: 1-57.
- . 1964. 'The Inscribed Offering Table of Nefer-seshem-ra from Byblos', *BMB* 17: 44-5.
- . 1991. 'Early Contacts between Egypt, Canaan, and Sinai: Remarks on the Paper by Amnon Ben-Tor', *BASOR* 281: 11-26.
- Warren, P. 1969. *Minoan Stone Vases* (Cambridge).
- . 1980. 'Problems of Chronology in Crete and the Aegean in the third and earlier second millennium BC', *AJA* 84: 487-99.
- . 1981. 'Knossos and its foreign relations in the Early Bronze Age', *Πεπραγμένα του ΔΙΙ Διεθνούς Κρητολογικού Συνεδριου. Ηρακλειο 29 Αυγουστου - 3 Σεπτεμβριου 1976 Α* (Athens): 628-37.
- . 1991. 'A Merchant Class in Bronze Age Crete? Evidence of Egyptian Stone Vases from the City of Knossos', in N. Gale (ed.), *Bronze Age Trade in the Mediterranean. Papers presented at the Conference held at Rewley House, Oxford in December 1989* (Studies in Mediterranean Archaeology 90, Jonsered): 295-301.
- . 1995. 'Minoan Crete and Pharaonic Egypt', in W.V. Davies and L. Schofield (eds), *Egypt, the Aegean and the Levant. Interconnections in the Second Millennium BC* (London): 1-18.

- Warren, P. and Hankey, V. 1989. *Aegean Bronze Age Chronology*, Bristol.
- Watkins, T.F. 1975. 'The Date of the Kfar Monash Hoard Again', *PEQ* 107: 53-63.
- Webb, J. 2005. 'Ideology, Iconography and Identity: The Role of Foreign Goods and Images in the Establishment of Social Hierarchy in Late Bronze Age Cyprus', in J. Clarke (ed.), *The Transmission and Assimilation of Culture in the Levant and Cyprus* (Levant Supplementary Series 2, Jerusalem): 176-82.
- Weinstein, J.M. 1974. 'A Fifth Dynasty reference to annealing', *JARCE* 11: 23-5.
- Weiss, H. 1985. *Ebla to Damascus. Art and Archaeology of Ancient Syria* (Washington DC).
- Wenke, R.J. 1986. 'Old Kingdom Community Organisation in the Western Egyptian Delta', *Norwegian Archaeological Review* 19: 15-33.
- . 1991. 'The Evolution of Early Egyptian Civilization: Issues and Evidence', *JWP* 5: 279-329.
- Wenke, R.J., Buck, P.E., Hamroutsh, H.A., Kobusiewicz, M., Kroeper, K. and Redding, R.W. 1988. 'Kom el-Hisn: Excavation of an Old Kingdom Settlement in the Egyptian Delta', *JARCE* 25: 5-34.
- Western, A.C. and McLeod, W. 1995. 'Woods used in Egyptian Bows and Arrows', *JEA* 81: 77-94.
- Wilkinson, T. 1999. *Early Dynastic Egypt* (London).
- Wimmer, S. 1990. 'Egyptian Temples in Canaan and Sinai', in S. Israelit-Groll (ed.), *Studies in Egyptology presented to Miriam Lichtheim, II* (Jerusalem): 1065-1106.
- Wittmack, L. 1910. 'Untersuchung altägyptischer Holzproben aus Abusir', *Sitzungsberichte der Gesellschaft naturforschender Freunde zu Berlin* 4: 181-92.
- Wodzińska, A. 2003. 'Pottery from the Tomb of Khafrankh (G 7948)', in J. Popielska-Grzybowska (ed.), *Proceedings of the Second Central European Conference of Young Egyptologists. Egypt 2001: Perspectives and Research, Warsaw 5-7 March 2001* (Warsaw): 135-50.
- . 2007. 'Preliminary Ceramic Report', in M. Lehner and W. Wetterstrom et al., *Giza Reports. The Giza Plateau Mapping Project I. Project History, Survey, Ceramics and Main Street and Gallery III.4 Operations* (Boston), 283-324.
- Woolley, L. 1955. *Alalakh. An Account of the Excavations at Tell Atchana in the Hatay, 1937-1949* (London).
- Wright, M. 1985. 'Contacts between Egypt and Syro-Palestine during the Protodynastic Period', *BA* 48: 240-53.
- . 1988. 'Contacts between Egypt and Syro-Palestine during the Old Kingdom', *BA* 51: 143-61.
- Yadin, Y. 1955. 'The Earliest Record of Egypt's Military Penetration into Asia?', *IEJ* 5: 1-16.

- Yannai, E. 2002. 'Imported Finds from the 'Ein Assawir Tombs (Israel) and their Significance in understanding the Chronological Synchronization between Israel, Egypt and Eastern Anatolia', in E.C.M. van den Brink and T.E. Levy (eds), *Egypt and the Levant. Interrelations from the 4th through the Early 3rd Millennium B.C.E.* (London/New York): 334-45.
- . 2006. 'The Origin and Distribution of the Collared-Rim Pithos and Krater: A Case of Conservative Pottery Production in the Ancient Near East from the Fourth to the First Millennium BCE', in A.M. Maeir and P. de Miroschedji (eds), *I will Speak Riddles of Ancient Times*. *Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of his Sixtieth Birthday*, I (Winona Lake): 89-112.
- Yeivin, S. 1961. *First Preliminary Report on the Excavations at Tel Gat* (Jerusalem).
- Yoffee, N. 1995. 'The Economy of Ancient Western Asia', in J. Sasson (ed.), *Civilizations of the Ancient Near East*, III (New York): 1387-99.
- Young, J. 1972. 'The Fabulous Gold of the Pactolus Valley', *BBMFA* 70: 5-13.
- Zarins, J. 1989. 'Ancient Egypt and the Red Sea Trade: The Case for Obsidian in the Predynastic and Archaic periods', in A. Leonard and B.B. Williams (eds), *Essays in Ancient Civilization presented to Helen J. Kantor* (Studies in Ancient Oriental Civilizations No. 47, Chicago): 339-68.
- . 1990. 'Obsidian and the Red Sea Trade. Prehistoric Aspects', in M. Taddei and P. Callieri (eds), *South Asian Archaeology 1987* (Rome): 507-41.
- Zibelius, K. 1978. *Ägyptische Siedlungen nach Texten des Alten Reiches* (Wiesbaden).
- Ziegler, C. 1999. *L'art égyptien au temps des pyramides* (Paris).

INDEX OF EGYPTIAN NAMES IN TRANSLATION

- | | |
|---|---|
| Abdu 92 | Mereri 14 |
| Akhi 60 | Meri-ib 76 |
| An-ankhti 13 | Meritetes 56, 63 |
| Duaenhor 63 | Mer-Ptah-ankh-mery-re 68 |
| Harkhuf 14, 163, 198-9, 201-2, 206, 232 | Mersu-ankh 65 |
| Hekni-khnum 93 | Meryre-hashetef 83, 89 |
| Hem-Khasti 36, 43 | Nefer-seshem-re 221 |
| Herenka 62 | Nesu-nefer 64 |
| Hesi-Re 159 | Netjereperef 82 |
| Idi 80, 89 | Ni-ankh-khnum 159, 197, Figs 36, 40 |
| Idu 76, 195, Pl. 9 | Nihotep-ptah 66 |
| Idu II 76 | Pepynakht 11, 13, 15, 200 |
| Ima-pepy 214 | Ptah-hotep 122, 159, 161, Fig. 37 |
| Impy 68, 165 | Qar 76-80, 88, 167 |
| Inti 11-12, 200, 251, Fig. 41 | Rekhmire 191 |
| Isi 85, 89 | Re-wer 65 |
| Itjef 68, 88 | Sabni 126, 163, 205, 208, 232, 234-5, 237, 243-4, 254 |
| Kaaper 14-15, 76, 88 | Senedjem-ib 78, 88 |
| Ka-em-hesit 11, 81, 89, 200, 251, Fig. 42 | Senedjem-ib Inty 66 |
| Ka-es-wedja 75, 88 | Seshat-hotep 75 |
| Kagemni 212 | Seshem-nefer I 63 |
| Ka-nofer 61 | Setka 92 |
| Kedfi 67, 88 | Shedu 156, 159, Fig. 36 |
| Khafre-ankh 61-2 | Shepses 92 |
| Khnum-hotep 7, 159, 197, Figs 36, 40 | Sneferu-seneb 57-8 |
| Khnum-nefer 65 | Ta-sen 121 |
| Khunas 92 | Tjeti 86 |
| Medew-nefer 61 | Washi-Ptah 80, 89 |
| | Weni 11-14, 123, 175, 193, 200, 252 |

INDEX OF EGYPTIAN TITLES IN TRANSLATION

(NOT INCLUDING THE NAMES OF KINGS OR QUEENS)

- | | |
|---|--|
| Administrator of the foreign land/hill country 32, 92 | Overseer of the Wenets 14 |
| Controller of copper 92, 186 | Scribe of copper 92, 186 |
| Overseer of all the Works of the King 68 | Scribe of the king's army ... in the western and eastern foreign lands [h3st] 14 |
| Overseer of the foreign land/hill country 33 | Scribe of the king's army in Wenet ... [and] in the Turquoise Terraces 14 |
| Overseer of the House of ʿs-wood 76, 195, Pl. 9 | Servant of the Mountain God 36 |
| Overseer of the Road of Horus 93, 123 | Sole Companion 85 |

APPENDIX I

List of Egyptian objects from Montet's 'dépôts de fondation' at Byblos

<i>No.</i>	<i>Vessel</i>	<i>Montet 1928 Ref.</i>	<i>Date</i>	<i>Comments/Parallels</i>	<i>Fig.ⁱ</i>
1	Fragt of Chephren diorite bowl, name of Menkaure	68-9, no. 45, fig. 21, pl. 39.45	4th Dynasty		34a
2	Travertine jar with the name of Unas	69-70, no. 46, fig. 21, pl. 39.46	5th Dynasty		--
3	Fragt of limestone? jar, name of Pepy I	70, no. 47, pl. 39.47	6th Dynasty		--
4	Fragt trav. cylindrical jar, name of Pepy I	71, no. 48	6th Dynasty	Inscription only published by Montet.	--
5	Fragt travertine platter, name of Pepy I	71, no. 49, pl. 45.49	6th Dynasty		--
6	Fragt travertine disk, name of Pepy I	71-2, no. 50, fig. 22	6th Dynasty	Not found in the foundation deposit but acquired from the local area.	--
7	Fragt travertine jar, name of Pepy I or II	72, no. 51, pl. 45.51	6th Dynasty		--
8	Fragt travertine disk, inscribed with royal title	72, no. 52, pl. 45.52	OK	See [158]	--
9	Fragt of travertine disk, insc. with royal title	72, no. 53, pl. 45.53	OK	See [158]	--
10	Fragt inscribed disk, no name	72, no. 54, pl. 45.54	OK	See [158]	--
11	Uninscribed platter made of a black breccia	72, no. 55	OK	Illustration not published by Montet.	--
12	Monkey-shaped jar, name of Pepy II	72-3, no. 56, pl. 40.56	6th Dynasty	Aston dates all known examples to the 6th Dynasty (1994: 139, no. 136).	--
13	Monkey-shaped trav. jar, name of Pepy I or II	73, no. 57, pl. 40.57	6th Dynasty		--
14	Monkey-shaped diorite? jar	73-4, no. 58, fig. 23,	6th Dynasty	Not found in the foundation deposit but acquired	--

No.	Vessel	Montet 1928 Ref.	Date	Comments/Parallels	Fig. ⁱ
		pl. 40.58		from the local area.	
15	Monkey-shaped travertine jar	74, no. 59, pl. 41.59	6th Dynasty		--
16	Monkey-shaped travertine jar	74, no. 60, pl. 45.60	6th Dynasty		--
17	Monkey-shaped travertine jar	74, no. 61, pl. 45.61	6th Dynasty		--
18	Ceramic monkey-shaped jar, name of Pepy II	74, no. 62, pl. 41.62	6th Dynasty	Not found in the foundation deposit but acquired from the local area.	--
19	Fragt travertine jar, inscribed, no name	74, no. 63, pl. 46.63	5th-6th Dynasty?	Shape not shown by Montet.	--
20	Fragt trav. vessel, name Queen Meritytis	75, no. 64, fig. 23	4th Dynasty	Inscription only published by Montet.	--
21	Fragt cylindrical jar, traces of hieroglyphic signs, no name	75, no. 65, fig. 24.65	OK	Drawing too poor to be certain about the shape and date.	--
22	Fragt trav. cylindrical jar, one hiero sign	75, no. 66	OK?	Illustration not published by Montet.	--
23	Cylindrical travertine jar	75-6, no. 67, fig. 24.67	1st-4th Dynasty	Poor illustration, see Aston 1994: 99.	--
24	Cylindrical travertine jar	75-6, no. 68, fig. 24.68	ED-early OK	Poor illustration, see Aston 1994: 99.	--
25	Cylindrical travertine jar	75-6, no. 69, fig. 24.69	ED-early OK	Poor illustration, see Aston 1994: 99.	--
26	Cylindrical travertine jar	75-6, no. 70, fig. 24.70	ED-early OK	Poor illustration, see Aston 1994: 99.	--
27	Cylindrical travertine jar	75-6, no. 71	ED-early OK?	Illustration not published by Montet.	--
28	Cylindrical travertine jar	75-6, no. 72	ED-early OK?	Illustration not published by Montet.	--
29	Cylindrical travertine jar, concave profile	76, no. 73	OK?	Illustration not published by Montet.	--
30	Tall cylindrical trav. jar, concave profile	76, no. 74, pl. 42.74	1st Dyn.-FIP	Aston 1994: 104, no. 34.	34b
31	Tall cylindrical travertine jar, flaring base	76, no. 75, pl. 42.75	1st Dyn.-FIP	Aston 1994: 104, no. 34.	--
32	Body of a travertine <i>hes</i> -jar	76, no. 76, pl. 42.76, 45.76	Late OK-FIP	Segmented upper body gone; Sowada 1999; Brunton 1927: pl. 42, lower left.	34e

No.	Vessel	Montet 1928 Ref.	Date	Comments/Parallels	Fig. ⁱ
33	Cylindrical travertine jar, concave profile	76, no. 77	OK?	Illustration not published by Montet.	--
34	Squat shouldered (diorite?) jar, thick walls	76, no. 78, pl. 42.78	1st-5th Dynasty	Aston 1994: 131, no. 108.	34d
35	Squat shouldered jar, thick walls, as above	76, no. 79	2nd-3rd Dynasty	Illustration not published by Montet.	--
36	Squat shouldered jar, thick walls	76, no. 80, pl. 44.80	3rd Dynasty	Reisner 1391a: 164-6, fig. 38.5.	34f
37	Small tapering travertine footed jar	76, no. 81, pl. 44.81	5th-6th Dynasty	Aston 1994: 105, no. 34.	--
38	Squat cylindrical travertine footed jar	76, no. 82, pl. 44.82	1st-6th Dynasty	Aston 1994: 104, no. 34.	--
39	Squat cylindrical limestone? footed jar	76, no. 83, pl. 42.83	5th Dynasty-FIP	Aston 1994: 104, no. 35.	--
40	Small tapering hornblende diorite? footed jar	76, no. 84, pl. 44.84	5th Dynasty-FIP	Aston 1994: 104, no. 35.	34c
41	Squat cylindrical travertine footed jar	76, no. 85, pl. 45.85	5th Dynasty-FIP	Aston 1994: 104, no. 35.	--
42	Squat cylindrical Chephren diorite footed jar	76, no. 86, pl. 42.86	5th Dynasty-FIP	Aston 1994: 104, no. 35.	--
43	Travertine lid of a jar	76, no. 87, pl. 45.87	MK	Manniche 1999: 109 (12th Dynasty).	--
44	Ovoid necked travertine jar, flat base	76, no. 88, pl. 44.88	OK	Aston 1994: 138, no. 134.	35a
45	Smaller ovoid travertine jar, flat base	76, no. 89, pl. 43.89	FIP	Aston 1994: 140, no. 139.	35d
46	Narrow ovoid travertine jar, missing neck	76, no. 90, pl. 44.90	5th-6th Dynasty	Jéquier 1929: 83, fig. 95, top, 2nd right	--
47	Ovoid travertine jar	76, no. 91, pl. 43.91	OK?	Illustration not published by Montet.	--
48	Travertine long pointed collared beaker	76, no. 92, fig. 25	5th Dynasty-FIP	Aston 1994: 135-6, no. 123.	--
49	Travertine slender collared beaker	77, no. 93	5th Dynasty-FIP	Illustration not published by Montet.	--
50	Flat-based travertine beaker	77, no. 94, pl. 44.94	ED?	Aston 1994: 110-11, no. 48. The size of this vessel is not noted by Montet.	35b
51	Collared bowl	77, no. 95, pl. 43.95	ED-early OK	Aston 1994: 130, no. 106. The main <i>floruit</i> of this type is 1st-4th Dynasties.	34g
52	Travertine slender collared beaker	77, no. 96, pl. 43.96	5th Dynasty-FIP	Aston 1994: 135-6, no. 123.	--

No.	Vessel	Montet 1928 Ref.	Date	Comments/Parallels	Fig. ⁱ
53	Travertine slender collared beaker	77, no. 97, pl. 43.97	5th Dynasty-FIP	Aston 1994: 135-6, no. 123.	--
54	Travertine short collared beaker	77, no. 98, pl. 43.98	5th Dynasty-FIP	Aston 1994: 135-6, no. 124.	35i
55	Travertine short collared beaker	77, no. 99, pl. 43.99	5th Dynasty-FIP	Aston 1994: 135-6, no. 124.	--
56	Travertine short collared beaker	77, no. 100, pl. 43.100	5th Dynasty-FIP	Aston 1994: 135-6, no. 124.	--
57	Travertine short collared beaker	77, no. 101, pl. 43.101	5th Dynasty-FIP	Aston 1994: 135-6, no. 124.	35e
58	Travertine short collared beaker	77, no. 102, pl. 43.102	5th Dynasty-FIP	Aston 1994: 135-6, no. 124.	--
59	Travertine short collared beaker	77, no. 103, pl. 45.103	5th Dynasty-FIP	Aston 1994: 135-6, no. 124.	--
60	Travertine slender collared beaker	77, no. 104, pl. 45.104	5th Dynasty-FIP	Aston 1994: 135-6, no. 123.	--
61	Ovoid Chephren diorite(?) collared jar	77, no. 105, pl. 43.105	4th-6th Dynasty	See Montet no. 109 (minus stand).	35g
62	Travertine wide-necked globular jar	77, no. 106, pl. 43.106	5th Dynasty-FIP	See below.	35f
63	Travertine wide-necked globular jar	77, no. 107, pl. 43.107	5th Dynasty-FIP	Similar to Aston 1994: 137-8, no. 131; 141, no. 141.	--
64	Travertine necked globular jar	77, no. 108, pl. 44.108	Late OK-FIP	Possibly a collared beaker.	--
65	Travertine? collared jar on integral stand	77, no. 109, pl. 43.109	4th-6th Dynasty	Aston 1994: 136, no. 126.	35c
66	Fragt of a stone jar with integral stand	77, no. 110, fig. 26.110	4th-6th Dynasty	Body shape uncertain; Aston 1994: 136-5, no. 122, 126.	--
67	Fragt of a stone jar with integral stand	77, no. 111, fig. 26.111	4th-6th Dynasty	Body shape uncertain, see above.	--
68	Fragt of a stone jar with integral stand	77, no. 112, fig. 26.112	4th-6th Dynasty	Body shape uncertain, see above.	--
69	Chephren diorite plate	77, no. 113	OK?	Illustration not published by Montet.	--
70	Fragt of a Chephren diorite? bowl	77, no. 114, fig. 26.114	4th-6th Dynasty	Precise shape uncertain but see [177-8].	--
71	Small stone jar missing a handle	77, no. 115, fig. 26.115	OK-FIP?	Montet's description/drawing too sketchy for study.	--

No.	Vessel	Montet 1928 Ref.	Date	Comments/Parallels	Fig. ⁱ
72	Rim fragt of a travertine vessel	77, no. 116, pl. 44.116	OK?	Montet's photo of fragt very unclear; shape uncertain. Possibly not Egyptian.	--
73	Shoulder fragt of jar with incised circles	78, no. 117, pl. 45.117	OK?	Possibly not Egyptian.	--
74	Three frags of travertine double handles	78, no. 118, pl. 45.118	MK	Poss. related to Aston 1994: 144, no. 152-3.	--
75	Travertine fragment 'in the form of a croissant' (<i>sic</i>)	78, no. 119, pl. 45.119	OK? Possibly not Egyptian	The function of this object is unknown.	--
76	Two travertine fragments of an object	78, no. 120, fig. 27.120, pl. 45.120	OK? Possibly not Egyptian	The function of these fragments is unknown. ⁱⁱ	--
77	Rock crystal jar from an 'Opening of the Mouth' set	78, no. 121, fig. 28.121	5th-6th Dynasty	Not found in the foundation deposit but acquired from the local area.	--
78	Fragment of a stone 'moustache' bowl	78, no. 122, pl. 45.122	Late 5th-6th Dynasty	See parallels cited for [182].	--
79	Flint knife	102, no. 313, pl. 57.313	OK	Caton-Thompson and Brunton 1934: pl. 5.1	35j
80	Rhomboidal 'alabaster' (travertine?) palette	106, no. 358, pl. 57.358	Predynastic-early OK?	Possibly Egyptian. See Ch. 8.3	35h

APPENDIX II

A PIXE-PIGME STUDY OF COMBED WARE JARS FROM EGYPT

P. Grave¹ and K.N. Sowada

AII.1. Method and Sample Description

PIXE-PIGME is a form of elemental analysis that uses a proton beam to irradiate powdered ceramic samples to isolate key trace elements (Grave et al. 1996). Owing to the availability of local testing facilities and expertise, this form of analysis was adopted to test selected samples from imported Giza Combed Ware jars held in the Boston Museum of Fine Arts and a reference sample of sherds from the Levant.

Samples were obtained by taking a small ‘clipping’ from a larger sherd using a pair of ordinary pliers, or cut from a bigger piece using a small saw. These were then powdered by the in the N.G. McIntosh Centre for Quaternary Dating (University of Sydney), taking care to ensure that the slipped surface (where present) was not included in the powdered form for analysis. In the case of the Boston MFA samples, these were taken by the Museum’s Conservation Department by drilling a hole either through the base or a clean section of the sherd. One again care was taken to ensure the drill obtained the sample from a clean surface and where necessary a small scraping of the surface was made. Sufficient powdered material of the Boston MFA jars remains to conduct further sampling in the future.

The samples were tested in December 1999 at the ANSTO Lucas Heights Nuclear Reactor (Sydney).² The results were then tabulated on the basis of the Principal Components Analysis (PCA) on 33 samples and 19 elements, using the MV-Arch software.³ No correction was done and analytic precision and accuracy for this session was normal.

AII.2. The dataset

The 33 samples were numbered as follows; other broad visual observations about the ware character and fabric (where it was possible to ascertain) are also noted:⁴

¹ Archaeology and Palaeoanthropology, University of New England, Armidale, NSW, Australia.

² Grants to conduct this research were provided by the Australian Institute of Nuclear Science and Engineering (Sydney) and the Near Eastern Archaeology Foundation (University of Sydney) for which I am grateful.

³ The software was developed by Emeritus Professor Richard Wright, University of Sydney, Australia.

⁴ My thanks to Dr Rita Freed (Giza - Museum of Fine Arts, Boston), Dr Alex Joffe (Megiddo

The Levant

- 2001 Byblos Ba'alat Gebal area, surface find: orange red ware, fine calcareous inclusions, no slip on exterior.
- 2002 Byblos AUB 1001a: very dark brown ware, with visible angular calcareous inclusions, no slip on exterior.
- 2003 Byblos AUB 1000: orange red ware, dark grey in section, horizontal combing on surface, no slip.
- 2004 Byblos AUB 58.381: orange red ware with fine calcareous inclusions; white/cream slip on exterior. Very similar to Combed Metallic Ware Variant 1.
- 2005 Byblos AUB 58.376: orange ware with no slip visible; rounded calcareous inclusions in surface.
- 2006 Byblos AUB 58.380: orange red ware with no slip; rounded calcareous inclusions in section.
- 2007 Beth Yerah 50-9870: orange ware with a fine lime slip; fine calcareous and other inclusions.
- 2008 Beth Yerah 195.75/195.90: orange ware with traces of a lime slip.
- 2009 Tel Kinrot Kin 83 A-19/5: orange ware with traces of a light lime slip.
- 2010 Tel Kinrot Kin 83: orange ware, grey core streak, no slip; horizontal and diagonal combing.
- 2011 Tel Kinrot Kin 83: orange ware, possibly a lime slip on exterior; fine horizontal combing visible.
- 2012 Megiddo 17.5 or 3 /4: orange buff ware with traces of a lime slip on exterior.
- 2013 Megiddo 64.003: orange ware with red core and many inclusions; uncoated exterior; thick walled. Horizontal combing on exterior.
- 2014 Megiddo 17.5 or 3 /4: buff ware, with large angular quartz and grey stone inclusions; uncoated with horizontal and diagonal combing.
- 2015 Megiddo 17.5 or 3 /4: orange buff ware, no slip.
- 2016 Tel Erani Gath D: fine brown ware, with large angular quartz and grey inclusions. Uncoated, with horizontal and diagonal combing.
- 2017 Tel Erani Gath D, D.57: orange ware with a thick white lime slip; plenty of calcareous inclusions.
- 2018 Tel Yarmuth Area C, Loc. 261: orange-red ware with a grey core; uncoated.
- 2019 Tel Yarmuth Area C, Loc. 2198: brown ware with no slip; horizontal and diagonal combing.
- 2020 Tel Yarmuth TY-C 39.80: light brown ware with sporadic angular calcareous and grey inclusions. Uncoated surface.

- Harvard Semitic Museum), Dr Rafi Greenberg (Beth Yerah - University of Tel Aviv), Dr Leila Badre (Byblos - American University of Beirut), Mr Baruch Brandl (Tel Erani and Tel Kinrot - Israel Antiquities Authority) and Dr Pierre de Miroschedji (Tel Yarmuth - CNRS) for providing the ceramic samples used in this study.

- 2029 Beth Yerah Str. IV Basket 1194/30: orange ware with calcareous inclusions, scattered round sand. Uncoated with horizontal combing.
- 2030 Beth Yerah Str. IV Basket 706/40: orange buff ware, with no slip and horizontal combing on the exterior.
- 2031 Beth Yerah Str. IVc Basket 698/27: red-brown ware, with traces of a light lime slip.
- 2032 Beth Yerah Str. IV Basket 1228/17: light brown ware, exterior coated with a thick lime slip.
- 2033 Megiddo 64.003, below floor of EB III megaron: buff ware, thick walled. Exterior coated with white lime slip and with horizontal and vertical combing.

Egypt (for a description of the wares and fabrics, see Chs 3 and 6)

- 2021 [95] Matmar British Museum EA63698: Coarse Combed Ware (Type V).
- 2022 [5] Giza Reisner Reg. 13-11-64: Combed Metallic Ware (Type IV Variant 1).
- 2023 [15] Giza Reisner Reg. 13-10-29: Combed Metallic Ware (Type IV Variant 1).
- 2024 [9] Giza Reisner Reg. 13-11-108: Combed Metallic Ware (Type IV Variant 3).
- 2025 [18] Giza Boston MFA 20.1881: not examined.
- 2026 [6] Giza Reisner Reg. 13-11-65: Combed Metallic Ware (Type IV Variant 1).
- 2027 [7] Giza Reisner Reg. 13-11-106: Combed Metallic Ware (Type IV Variant 1).
- 2028 [8] Giza Reisner Reg. 13-11-107: Combed Metallic Ware (Type IV Variant 2).

AII.3. Results

The table below indicates that the first three components account for the most significant variation (almost 70%) for the dataset. This is consistent with a dataset that is highly structured (i.e. compositional groups are present). The plot of the first two components for the samples (Chart I) indicates that the dataset is composed of three general groups. These groups have been labelled A, B and C.

Table 11. *Eigenvalues from PCA of dataset giving raw % and cumulative % of variance accounted for by each eigenvalue*

Eigenvalues	I	II	III	IV
Raw	6.9	4.32	2.32	1.43
%	34.5	21.61	11.58	7.15
Cumulative %	34.5	56.11	67.69	74.84

The plot of the first two components for the elements (Chart II) helps us understand the character of these groups. It shows that Group A is silica rich (probably present as quartz sands); Group B has overall lower silica (i.e. it may be considerably less sandy) with more clay elements (e.g. Fe, Al) present. Higher concentrations of fluorine in Group A samples may also indicate a lower firing temperature for this group (fluorine can be volatile). Group C samples are very homogenous with relatively high concentrations of calcium and potassium. The homogeneity of this group suggests that the Ca/K is part of the original clay chemistry or present as very finely divided particles rather than reflecting discrete inclusions. If not a distinct group themselves the two samples (2017 and 2020) intermediate between C and A may belong to general Group A but are unlikely to belong to C given that latter groups' overall homogeneity.

The general groups can be further decomposed with the addition of the third component of the PCA that identifies A and B subsets. The first three components are identified in subsets Ai, Aii etc. on Chart I. Note the allocation of sample 2029.

AII.4. Conclusion

General groups A and B could represent two classes of ware (e.g. coarse and fine) derived from the same clay course (the difference attributable to dilution of the fabric with quartz sands). The higher concentration of fluorine in the Group A samples may be a possible further indicator of a technical difference between the two groups. One possible alternative to this scenario is suggested by the correlation of two minor and one trace element (Mg, Na and Rb) in Groups A. These indicate that the samples of this group have an additional exotic mineral component in addition to high silica and therefore may not have the same origin as Group B. The samples of Group C, characterised as a homogeneous and calc-potassium rich fabric, are most likely to come from a geologically different region.

The elemental composition of two of the three groups, Group B and C, correlates with the structure of clays from northern Canaan identified by

Greenberg and Porat (1996). The presence of more clay elements in Group B (Fe and Al) fits petrographic observations of clays from the Hatira Formation of the central Levant (Greenberg and Porat 1996:13-17). Sherds from Beth Yerah, Byblos, Megiddo, Tel Yarmuth and Tel Kinrot belonged to this cluster, signalling the potentially wide distribution of vessels (or rather the contents thereof) from production centres using these clays. Combed Ware vessels from Egypt belonging to this group were [15], and [18] both from Giza and [95] from Matmar. Group C, representing vessels from Megiddo and Beth Yerah, has a high potassium and calcium content, which may reflect the 'local calcareous, silty clays, with limestone and chalk temper' from southern Canaan and exported northwards (Porat 1989: 73; Greenberg and Porat 1996: 17). The third cluster (Group A) chemically represents a potentially different point of origin. Significantly, the cluster comprised five samples of imported vessels from Giza and four sherds from Byblos. The close association between these samples points to Byblos or the nearby environs as the point origin for the pots [5-9].

The clusters may be interpreted to show two origins for this group of Combed Ware vessels from Giza: a production centre at Byblos or nearby (Group A), and another in the Central Levant (Group B).

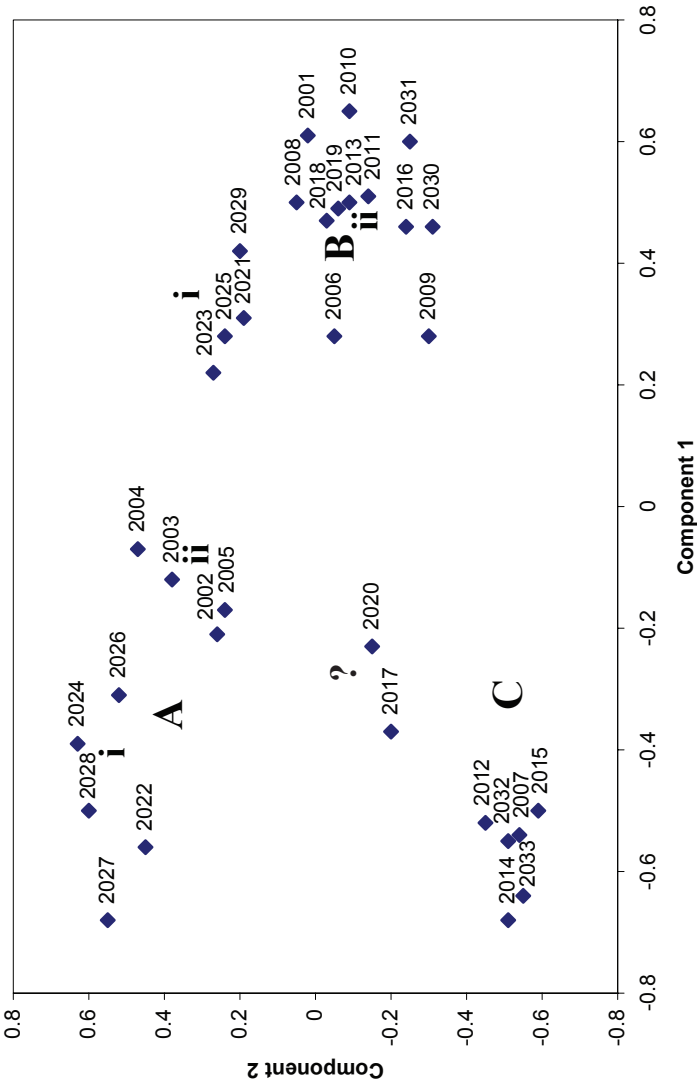


Chart I. Bivariate plot of the first two PCA components for the samples showing the highly structured character of the dataset.

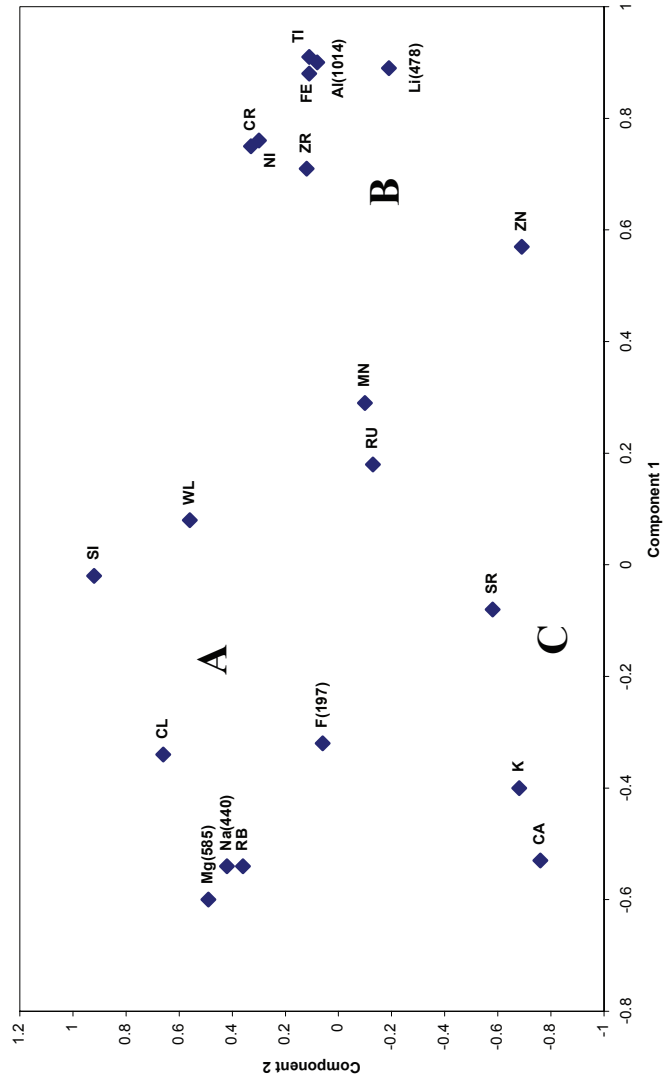


Chart II. *Bivariate plot of the first two components for the elements. The relationship of the elements to each of the three general groups is depicted using A, B and C.*

FIGURES AND PLATES

FIGURE 1

EB IB SITES IN CANAAN AND EGYPT

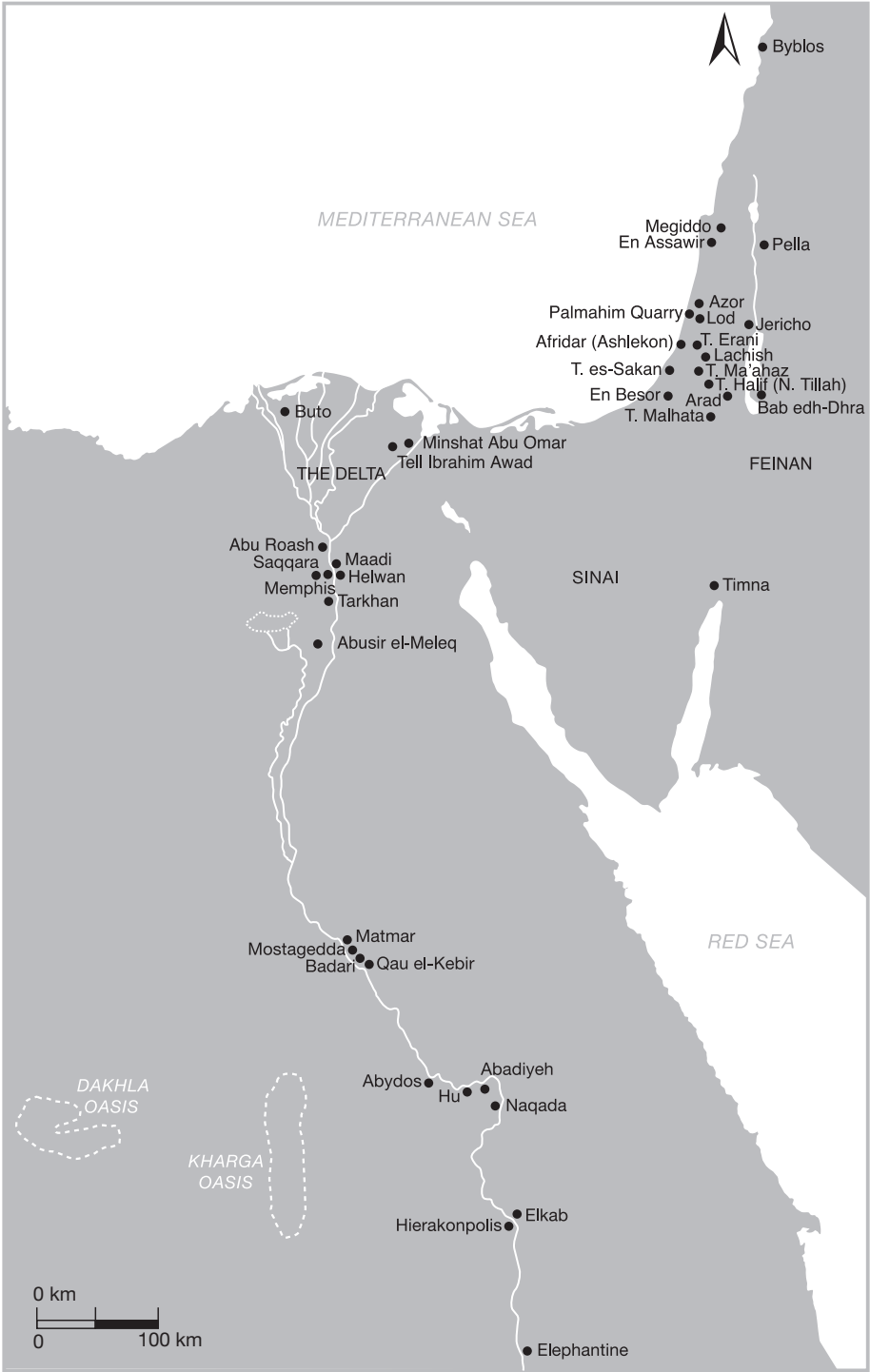
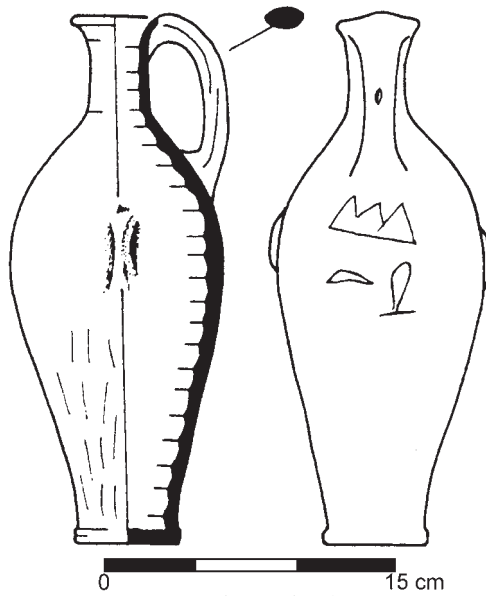


FIGURE 2

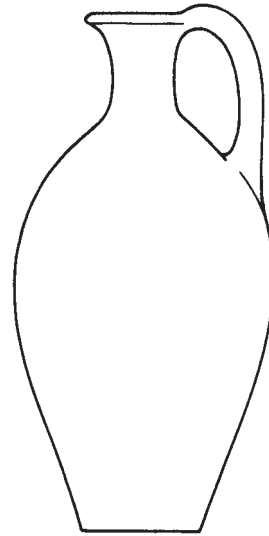
EB II SITES IN CANAAN AND THE SINAI



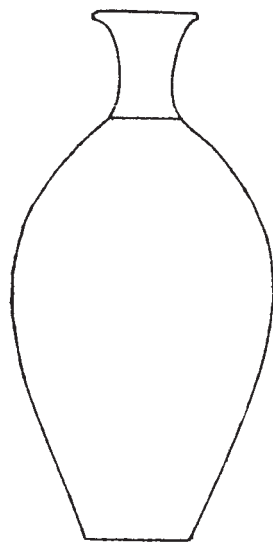
EB II CERAMICS



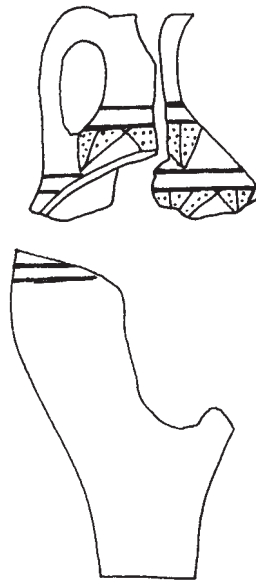
(a) Beth Yerah 741
(after Greenberg and Eisenberg 2002)



(b) Red Slipped Metallic Ware
Ashmolean Museum E3160
(after Porat and Adams 1996)



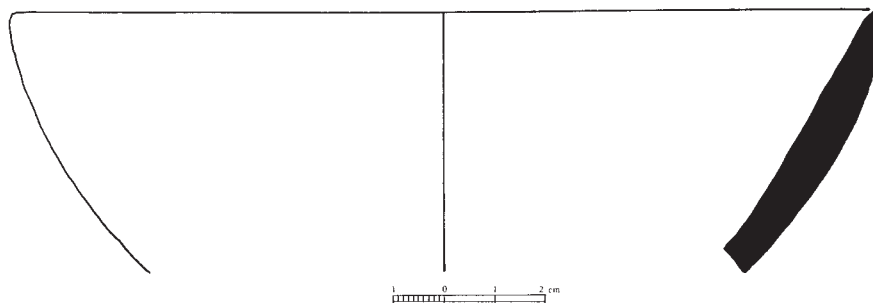
(c) Imported jar from Abydos
(after Petrie 1902)



(d) Light Faced Painted Ware
from Tomb U (Semerkhet) at
Abydos (after Petrie 1901)

FIGURE 4

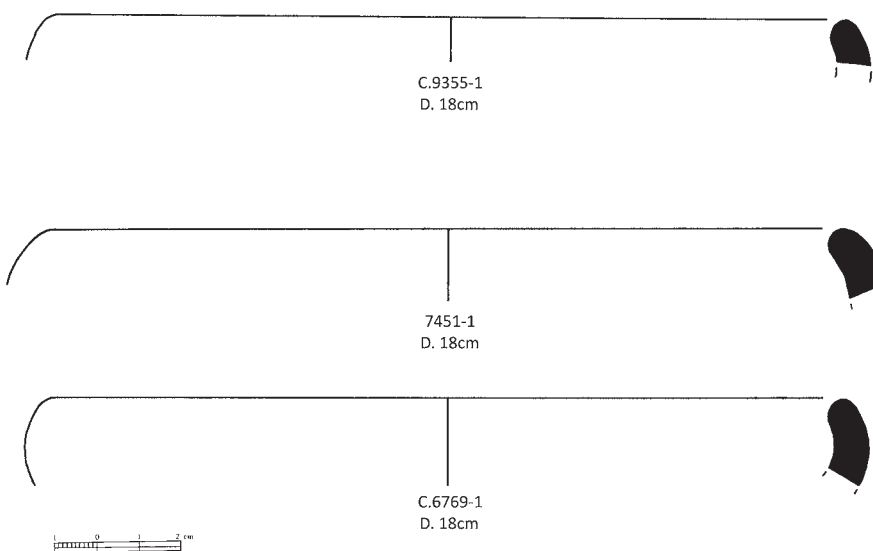
EGYPTIAN STONE VESSELS IN EB II CANAAN



(a) Tell el-Far'ah North F.3935



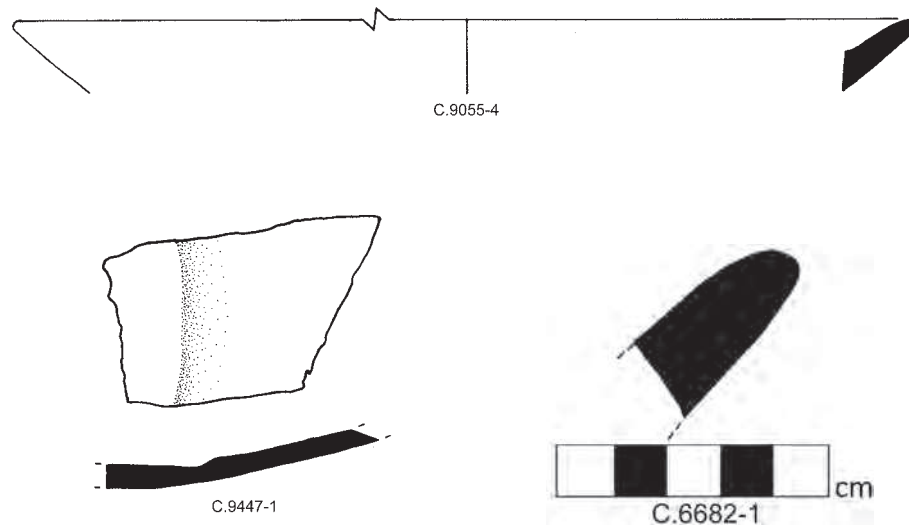
(b) Tell el-Far'ah North Locus 747



(c) Tel Yarmuth travertine bowls

FIGURE 5

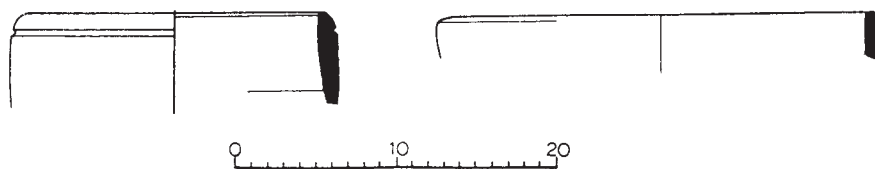
EGYPTIAN STONE VESSELS IN EB II CANAAN



(a) Indurated limestone, schist and gabbro stone vessel fragments from Tel Yarmuth



(b) Jericho 1619 (after Kenyon and Holland 1983)



(c) Arad Str. II (after Amiran 1978)

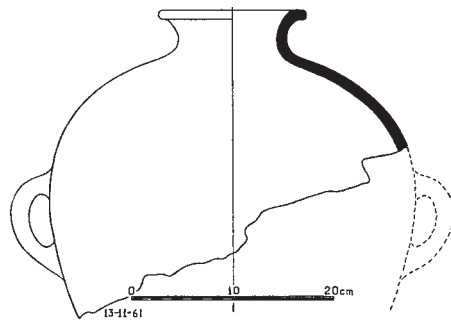
FIGURE 6

MAP OF EGYPT

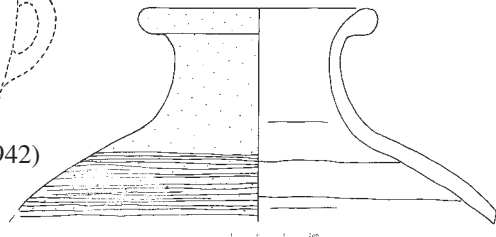


FIGURE 7

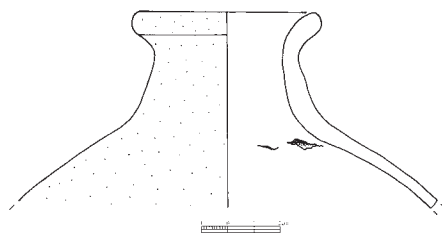
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



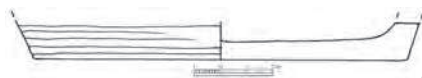
[2] Reg. 13-11-61 (after Reisner 1942)



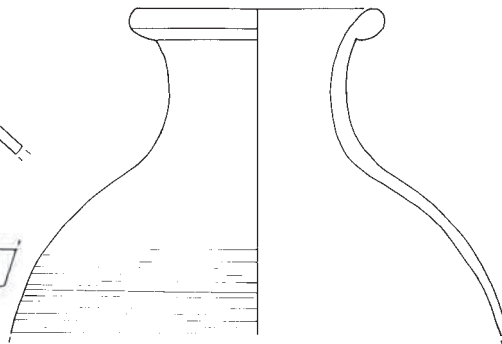
[5] Reg. 13-11-64



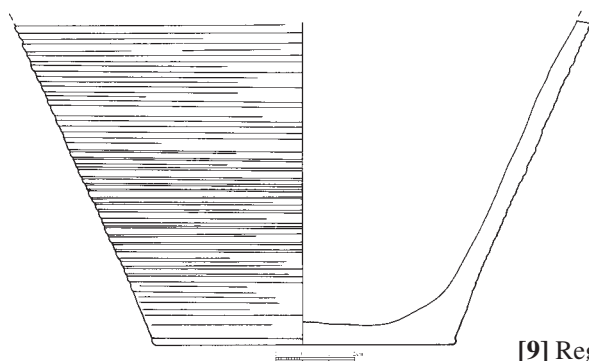
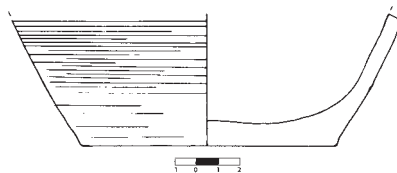
[6] Reg. 13-11-65



[7] Reg. 13-11-106



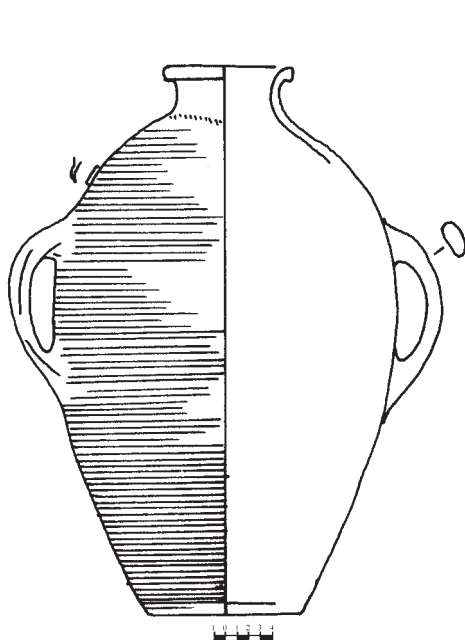
[8] Reg. 13-11-107 (KS 1000)



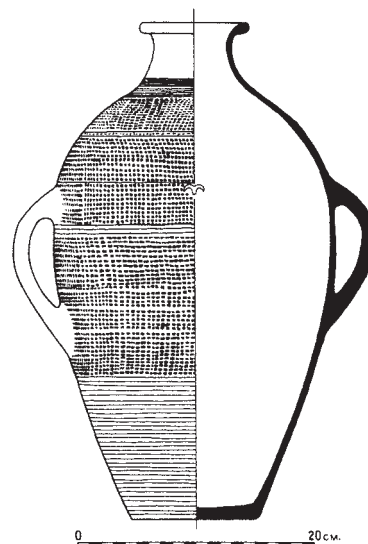
[9] Reg. 13-11-108

FIGURE 8

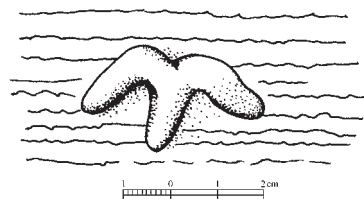
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



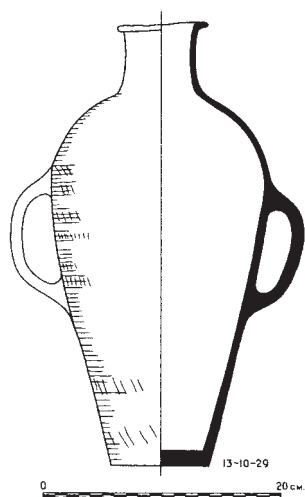
[13] Boston 37.2725



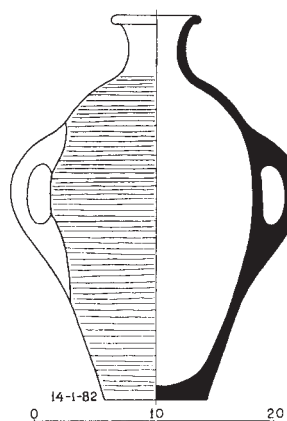
[14] Boston 37.1319
(after Reisner and Smith 1955)



[14] Boston 37.1319 detail



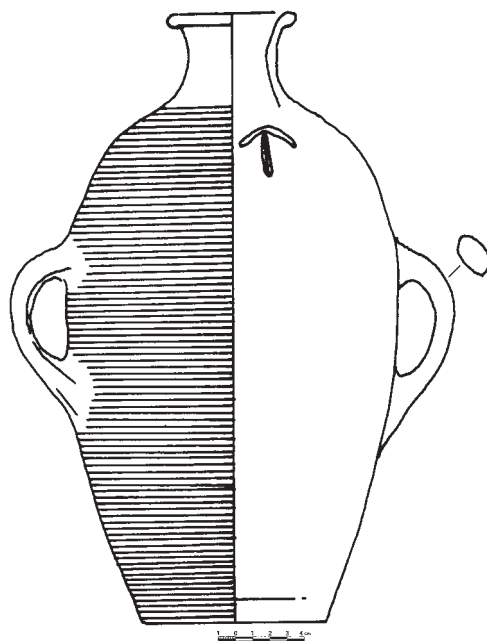
[15] Reg. 13-10-29
(after Reisner and Smith 1955)



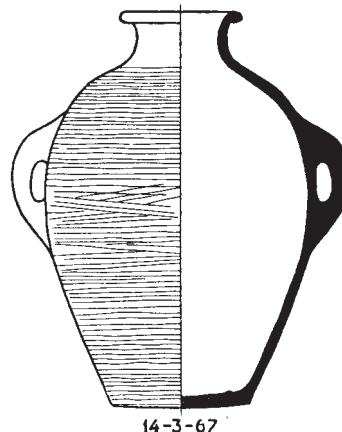
[18] Boston 20.1881
(after Reisner 1942)

FIGURE 9

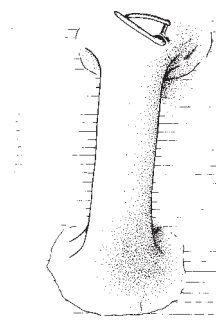
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



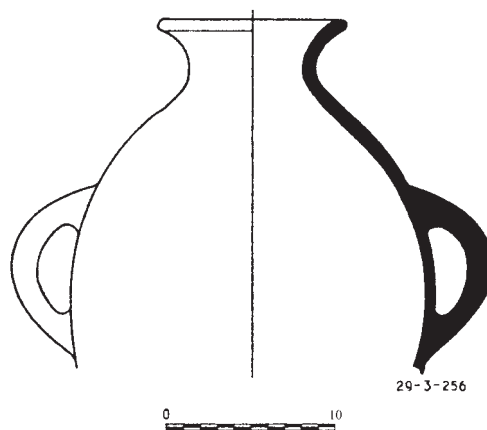
[19] Boston 19.1456



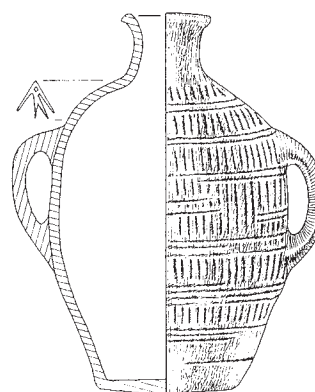
[21] Boston 20.1914



[25] Boston 47.1661
detail



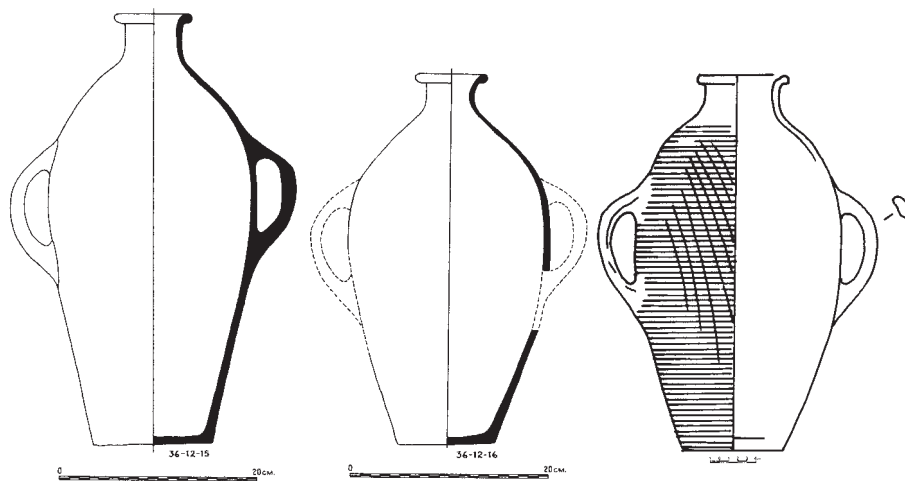
[28] Reg. 29-3-256
(after Reisner and Smith 1955)



[26] Nezlet Batran
(after Kromer 1991)

FIGURE 10

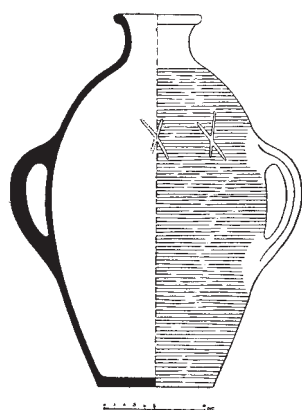
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



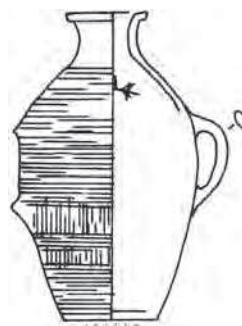
[29] Reg. 36-12-15 (after Reisner and Smith 1955)

[30] Reg. 36-12-16 (after Reisner and Smith 1955)

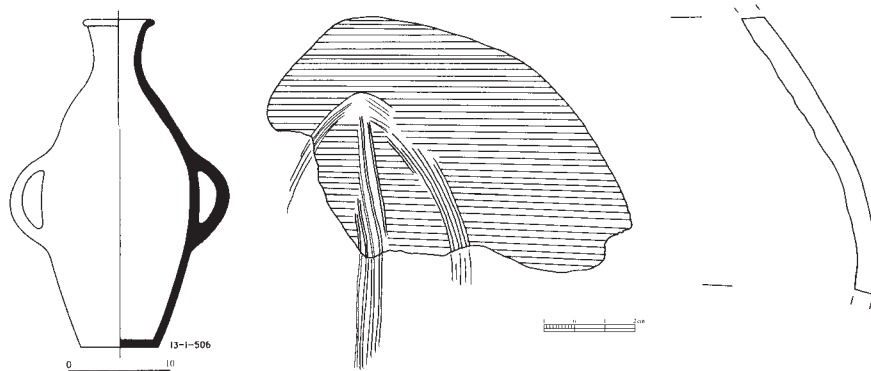
[33] Boston 20.1903



[37] Giza, no number (after Hassan 1936)



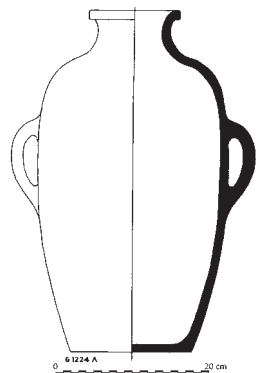
[39] Boston 47.1662



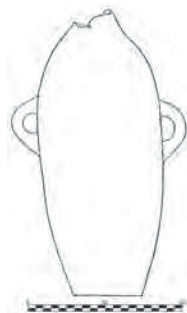
[38] Reg. 13-1-506 (after Reisner and Smith 1955) Jar and detail

FIGURE 11

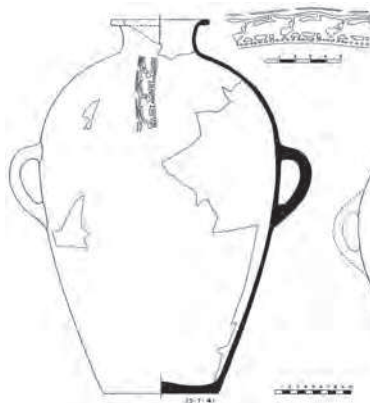
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



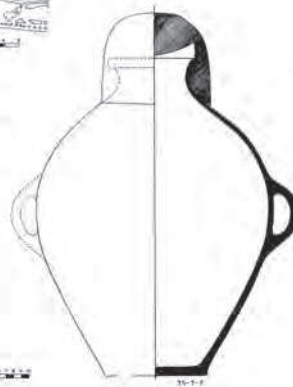
[40] Giza, no number
(after Reisner and Smith 1955)



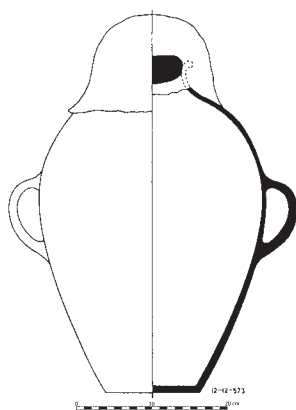
[48] Itjef 1
(after Junker 1929)



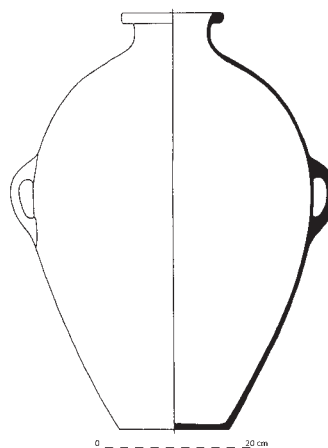
[42] Boston 37.2724
(after Reisner and Smith 1955)



[47] Boston 37.2723
(after Reisner and Smith 1955)



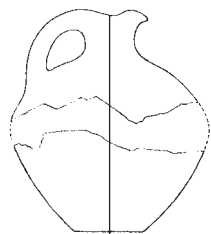
[52] Boston 13.2931
(after Reisner and Smith 1955)



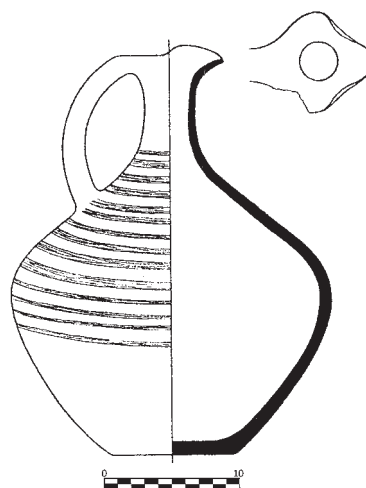
[46] Giza, no number
(after Reisner and Smith 1955)

FIGURE 12

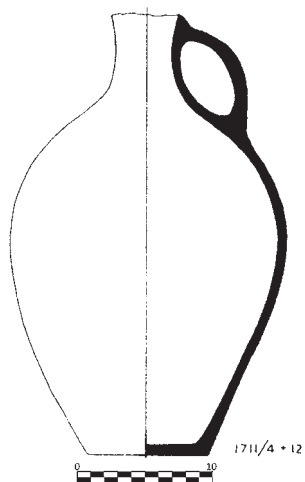
EGYPT: ONE-HANDLED JARS (TYPE 2) FROM GIZA
(AFTER REISNER AND SMITH 1955)



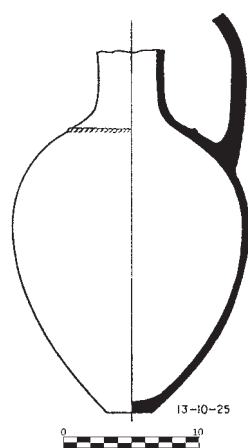
[54] Giza, no number



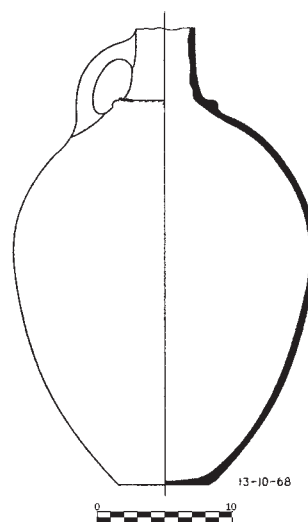
[55] Boston 20.1904



[56] Reg. 1711/4 and /12

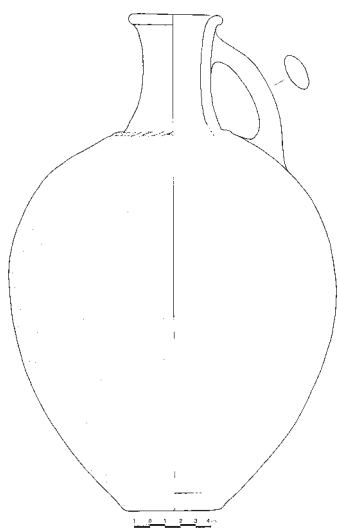


[57] Boston 20.1899

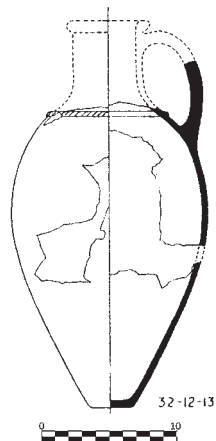


[58] Reg. 13-10-68

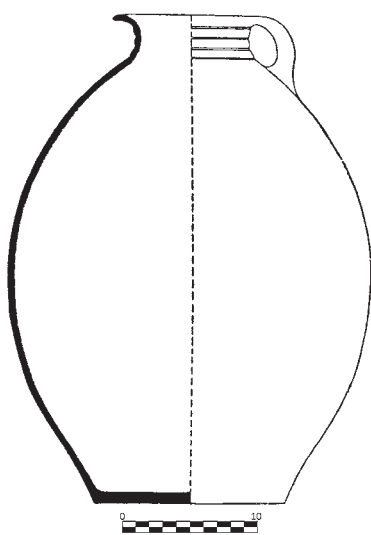
EGYPT: ONE-HANDLED JARS (TYPE 2) FROM GIZA AND OTHER SITES



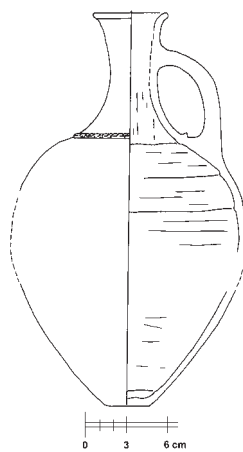
[59] Boston 20.1905



[60] Reg. 32-12-13
(after Reisner and Smith 1955)



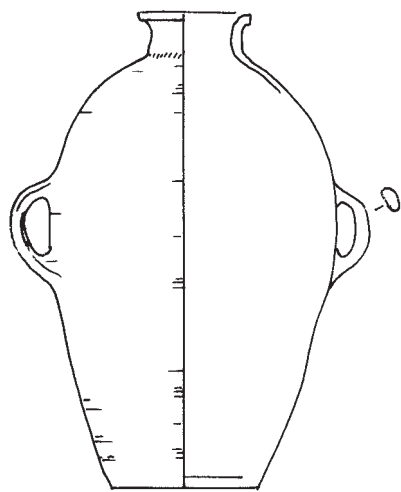
[61] Giza, no number
(after Hassan 1936)



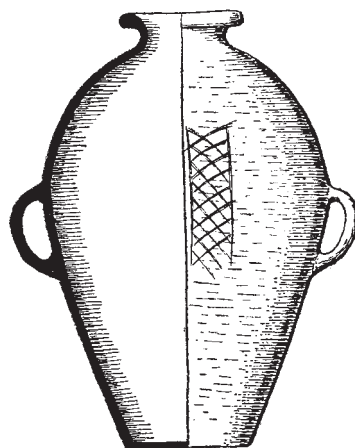
[90] Dashur S45
(after Alexanian 1999)

FIGURE 14

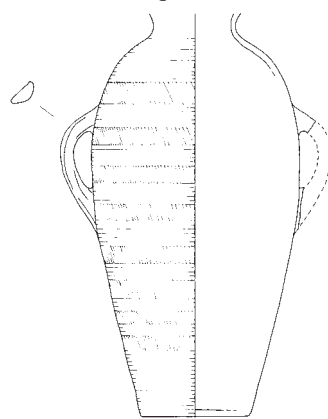
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA AND OTHER SITES



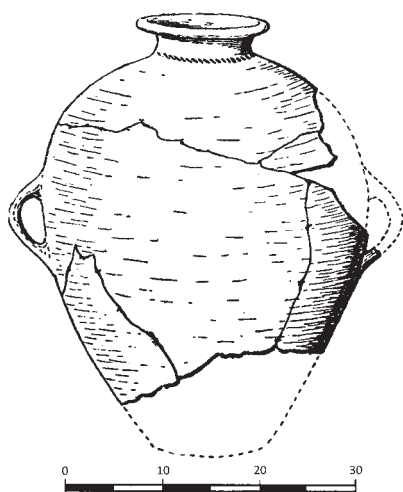
[51] Boston 13.2930



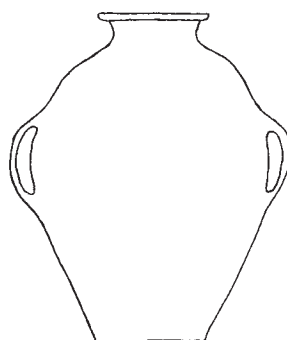
[83] Cairo, number not known
(after Jéquier 1929)



[95] BM EA 63698

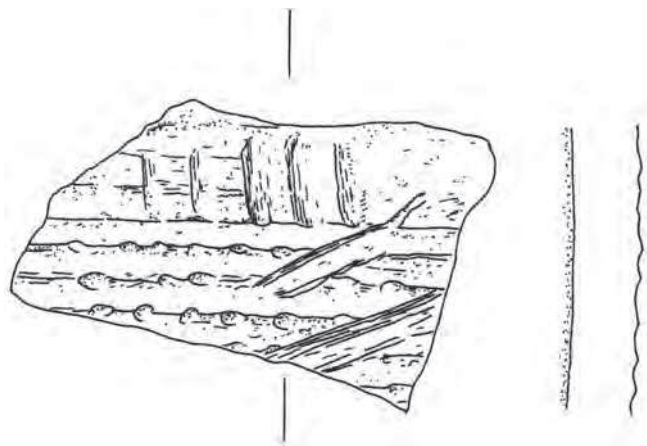


[84] Saqqara, number not known
(after Jéquier 1929)

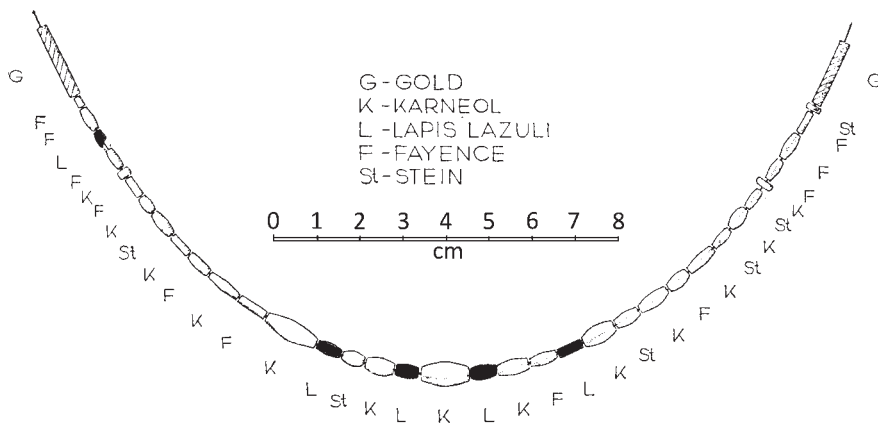


[99] Ballas, no number
(after Petrie and Quibell 1896)
Scale 1:3

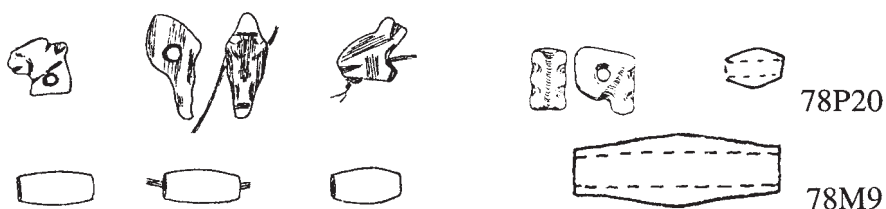
EGYPT: IMPORTED CERAMICS AND RAW MATERIALS



[102] Elephantine Z3319 Scale 1:1



[64] Giza (after Junker 1944)



[94] Deshasha (after Petrie 1896)
Scale 1:1

[96] Matmar (after Brunton 1948)
Amulet Scale 1:1, Beads 2:1



[98] Qau el-Kebir (after Brunton 1928)
Scale 2:1

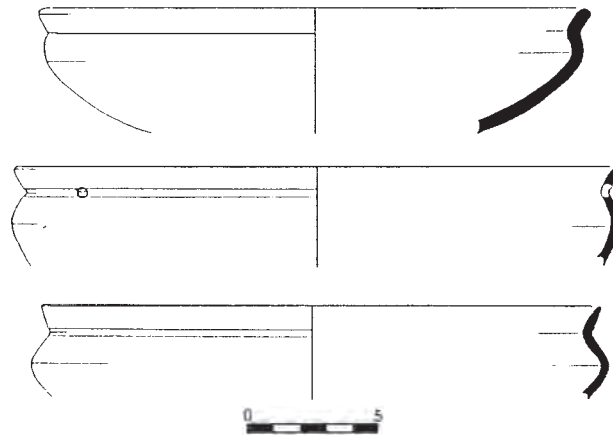
FIGURE 16

EB III-IV SITES IN CANAAN





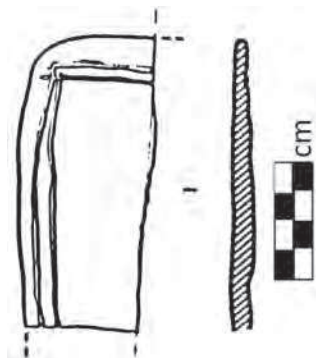
[107] Graffito of Sahure at Wadi Kharig
(after Giveon 1978)



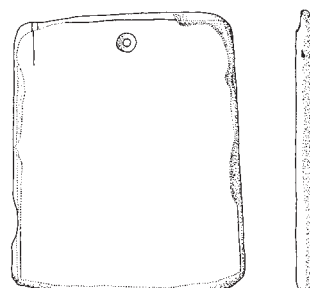
[108] Meydum bowls from northern Sinai
(after Oren and Yekutieli 1990)

FIGURE 18

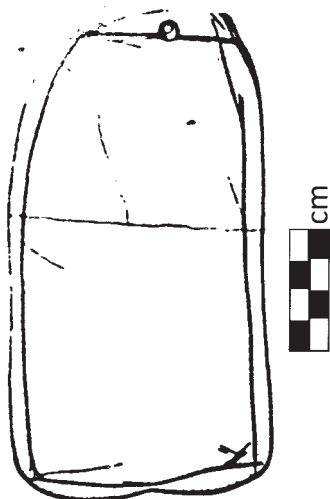
CANAAN: EGYPTIAN PALETTES



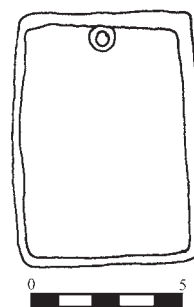
[112] Bab edh-Dhra 2924



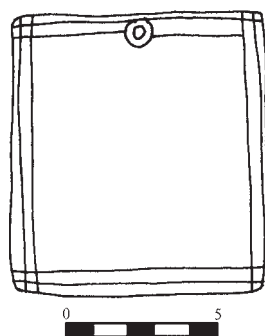
[113] Bab edh-Dhra 3364
Scale 1:2



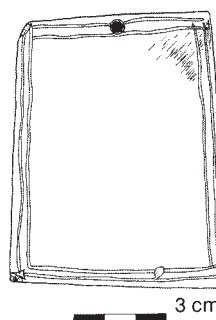
[114] Bab edh-Dhra 1900



[115] Bab edh-Dhra A51
(after Schaub and Rast 1989)

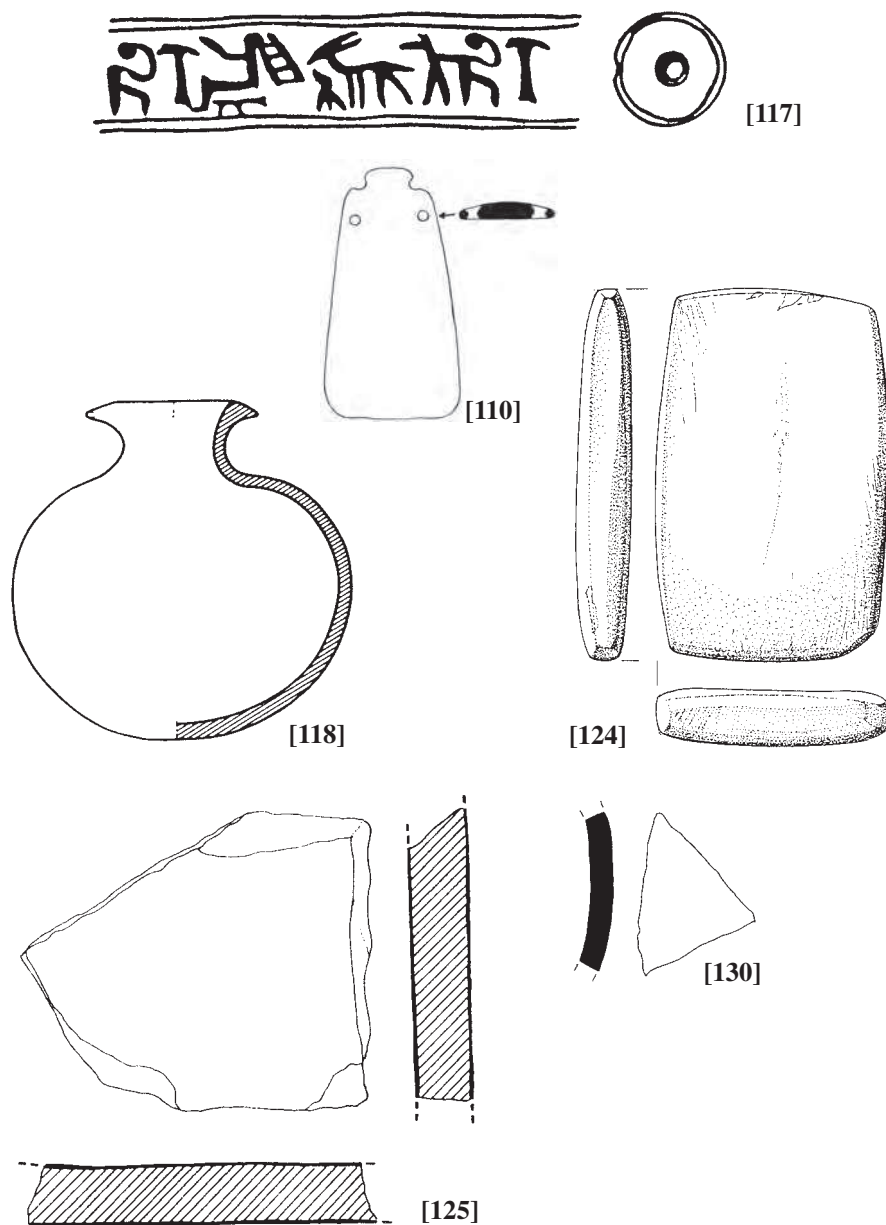


[116] Bab edh-Dhra A21
(after Schaub and Rast 1989)



[121] Lahav Obj. 1083
(after Jacobs 1996)

CANAAN: EGYPTIAN OBJECTS



[110] Mother-of-Pearl pendant (after Schaub and Rast 1989) Scale 1:2

[117] Bab edh-Dhra 2823 (after Lapp 1989) Scale 1:1

[118] Bab edh-Dhra 2209 (after Rast and Schaub 1980) Scale 1:3

[124] Tel Yarmuth C.14062-1 Scale 1:2

[125] Tel Yarmuth C.9597-1 Scale 1:2

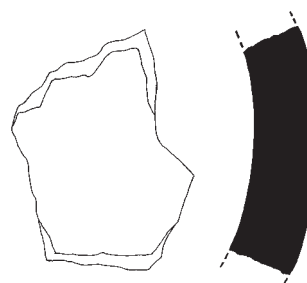
[130] Tel Yarmuth C.5971-1 Scale 1:2

FIGURE 20

CANAAN: EGYPTIAN OBJECTS



[119] Bab edh-Dhra 1888



[133] Tel Yarmuth C.13182-1
Scale 1:2



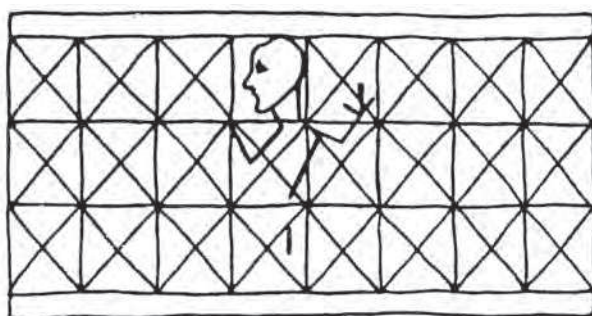
[120] Lahav Obj. 1696
(after Seger 1990)



[123] Tel Erani IDAM 96-1810
Scale 1:1



[129] Tel Yarmuth C.6625-1
Scale 1:1



(a) Bab edh-Dhra 2860
(after Lapp 1995) Scale 1:1

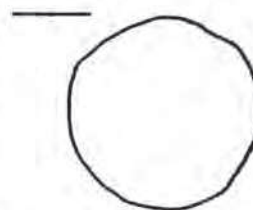


FIGURE 21

CANAAN: EGYPTIAN STONE VESSELS FROM TEL YARMUTH

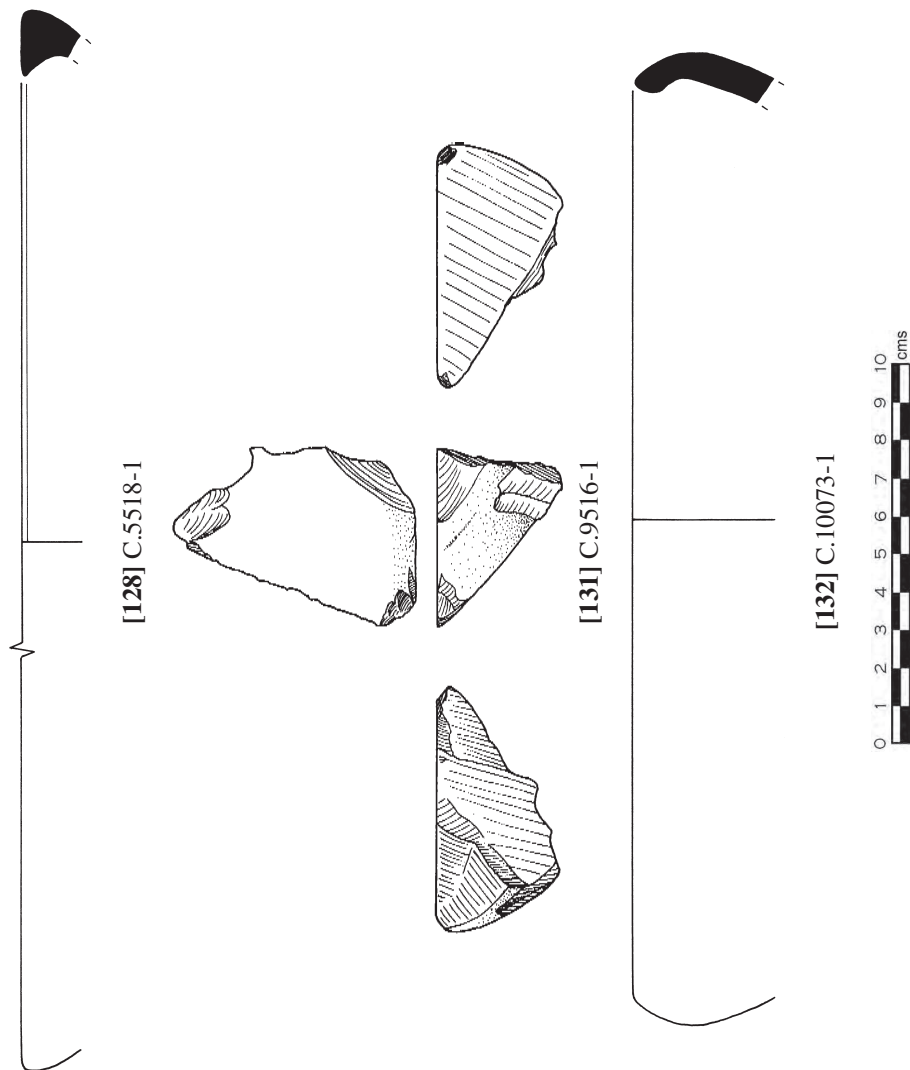
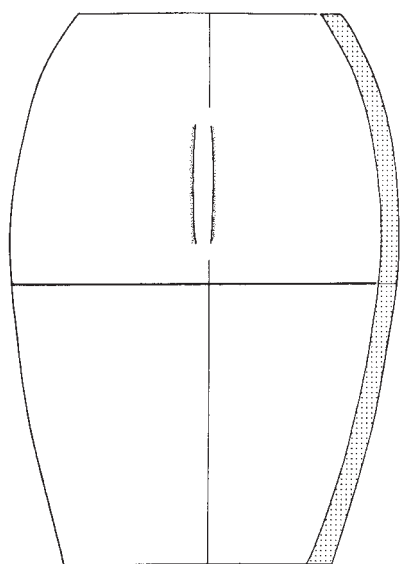
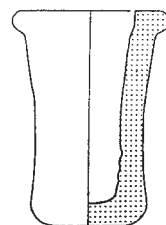


FIGURE 22

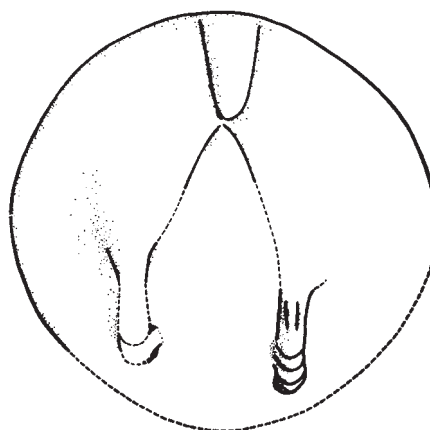
CANAAN: EGYPTIAN STONE VESSELS FROM AI
(AFTER AMIRAN 1970A)



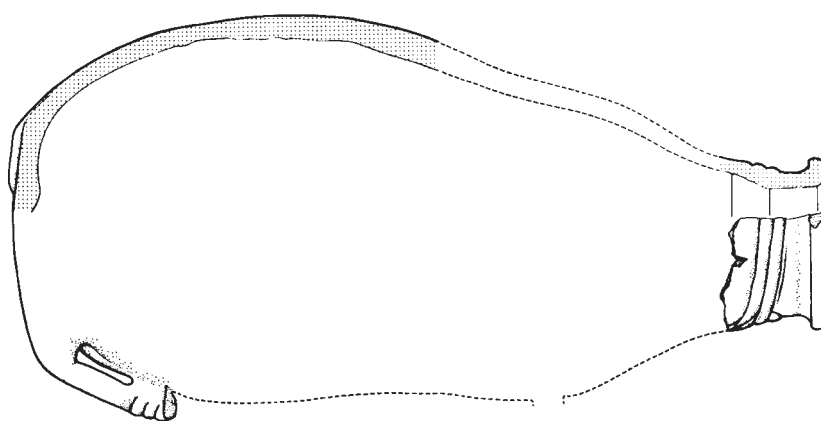
[134] IAA 36.583 and 36.586
H. approx. 21.6cm



[135] HU 5340
H. 8.4cm

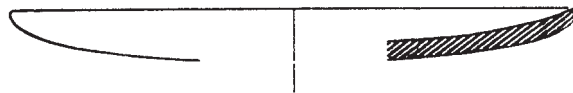


[137] IAA 36.592

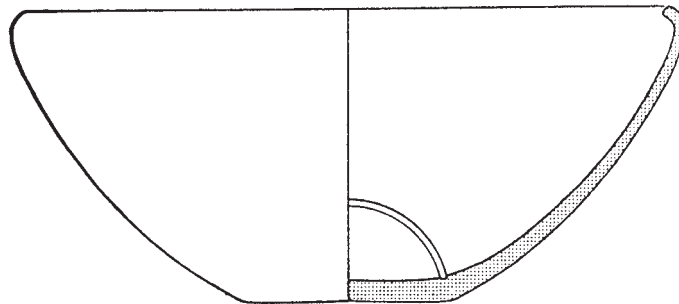


[136-7] IAA 36.581 and 36.592
L. approx. 65.5cm

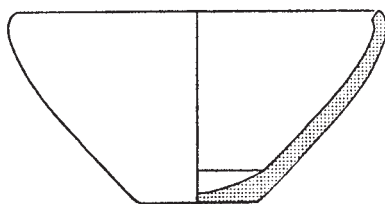
CANAAN: EGYPTIAN STONE VESSELS FROM AI
(AFTER AMIRAN 1970A)



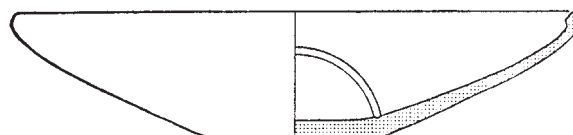
[138] IAA 36.588



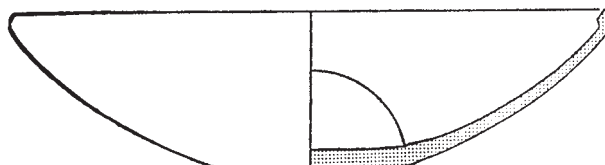
[139] MK 514 and 692



[140] MK 344 and 399



[141] HU 5424



[142] IAA 36.587

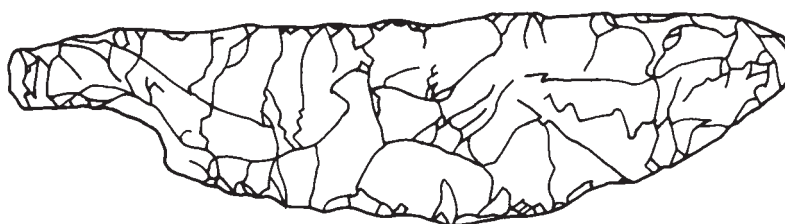
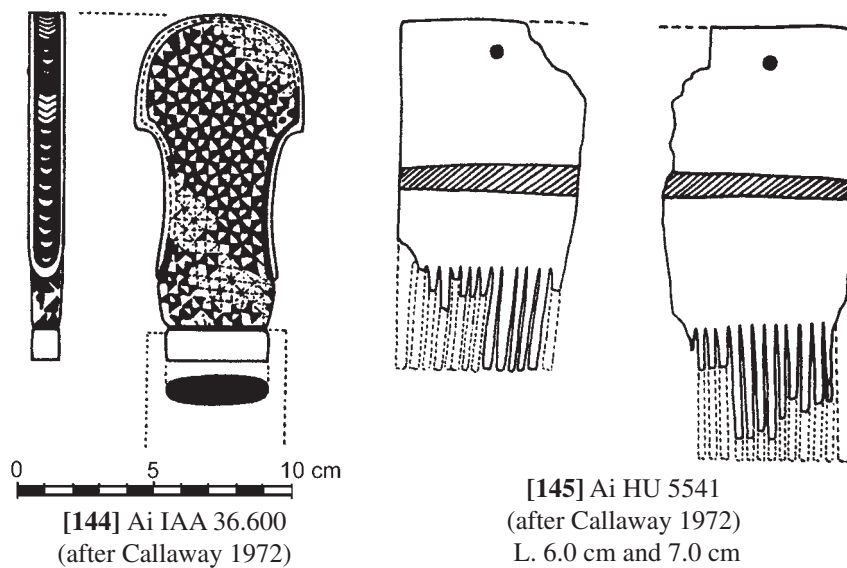


[143] HU 5275

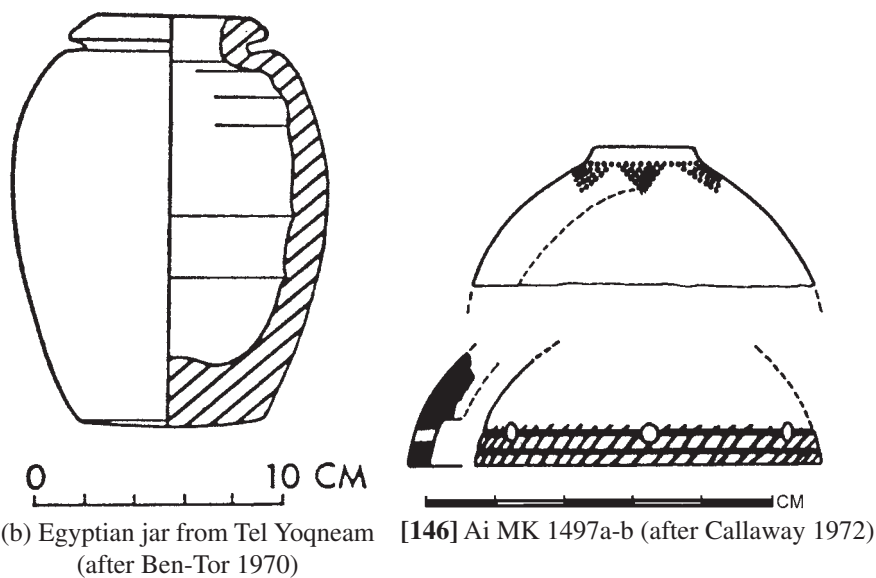


FIGURE 24

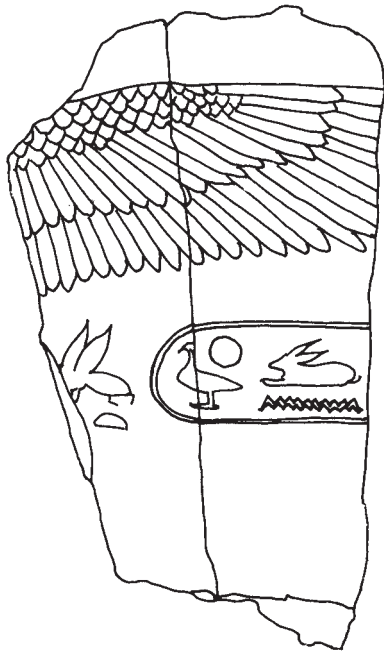
CANAAN: EGYPTIAN OBJECTS



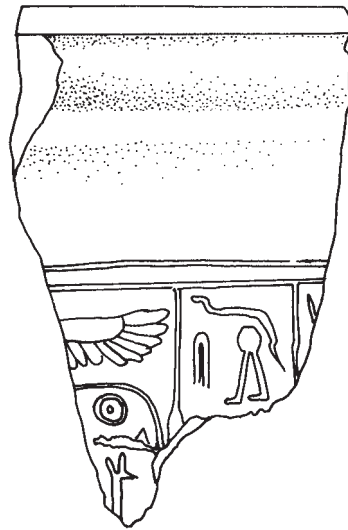
(a) Knife from Yavne-Yam (after Gophna 1969) Not to scale



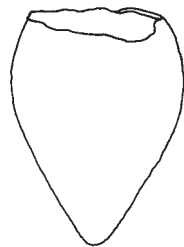
NORTHERN LEVANT: EGYPTIAN STONE VESSELS FROM BYBLOS
(AFTER DUNAND 1939-58) NOT TO SCALE



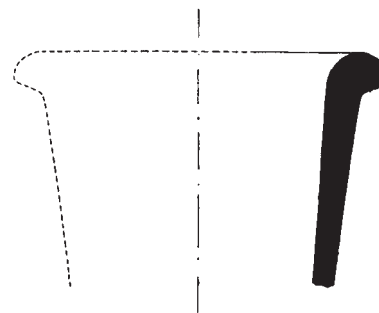
[151] Dunand 4029



[152] Dunand 4030



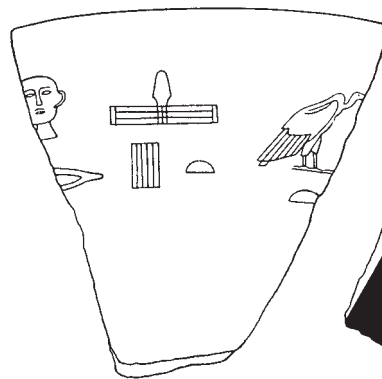
[153] Dunand 4031



[156] Dunand 17536



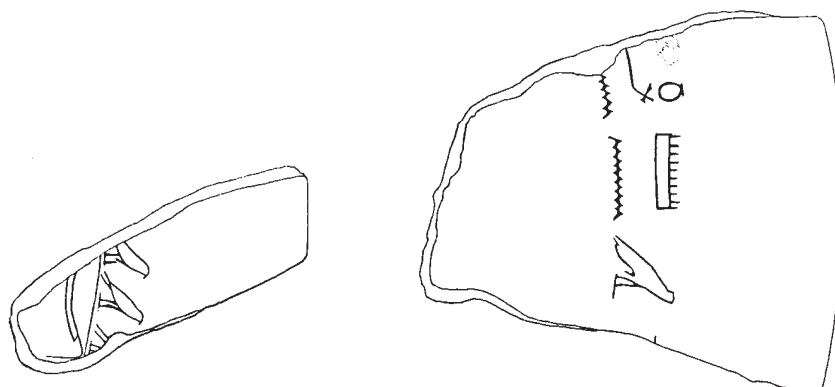
[155] Dunand 15866



[157] Dunand 17538

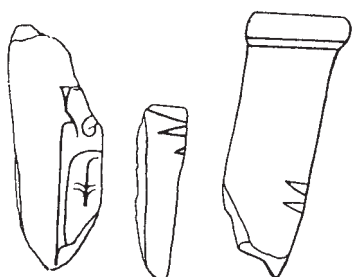
FIGURE 26

NORTHERN LEVANT: EGYPTIAN STONE VESSELS FROM BYBLOS
(AFTER DUNAND 1958) NOT TO SCALE

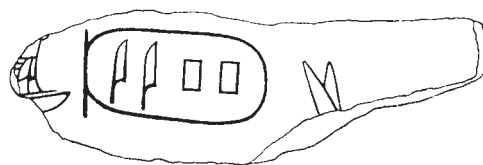


[158] Dunand 17539

[158] Dunand 17542



[159] Dunand 17541

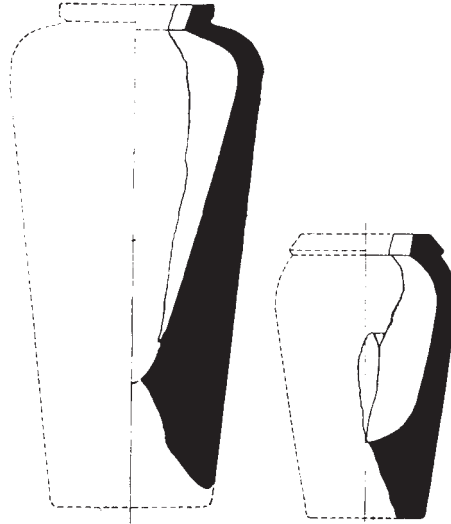


[158] Dunand 17540

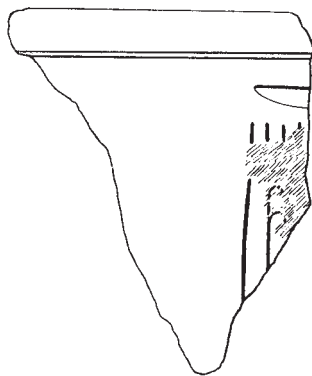


[160] Dunand 17543

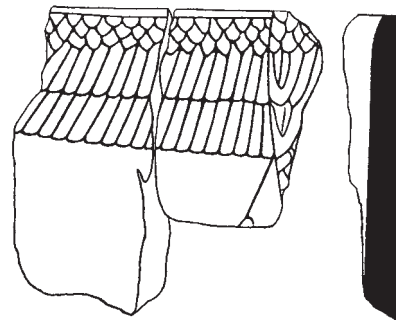
NORTHERN LEVANT: EGYPTIAN STONE VESSELS FROM BYBLOS
(AFTER DUNAND 1958) NOT TO SCALE



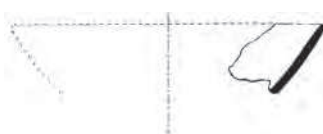
[161] Dunand 17548a, 17548b



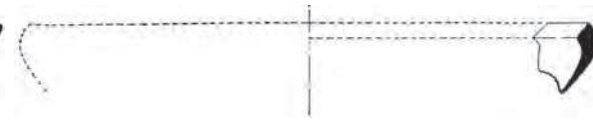
[160] Dunand 17543



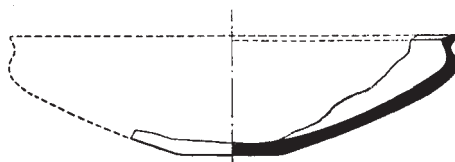
[162] Dunand 17549



[164] Dunand 17551a



[164] Dunand 17551b



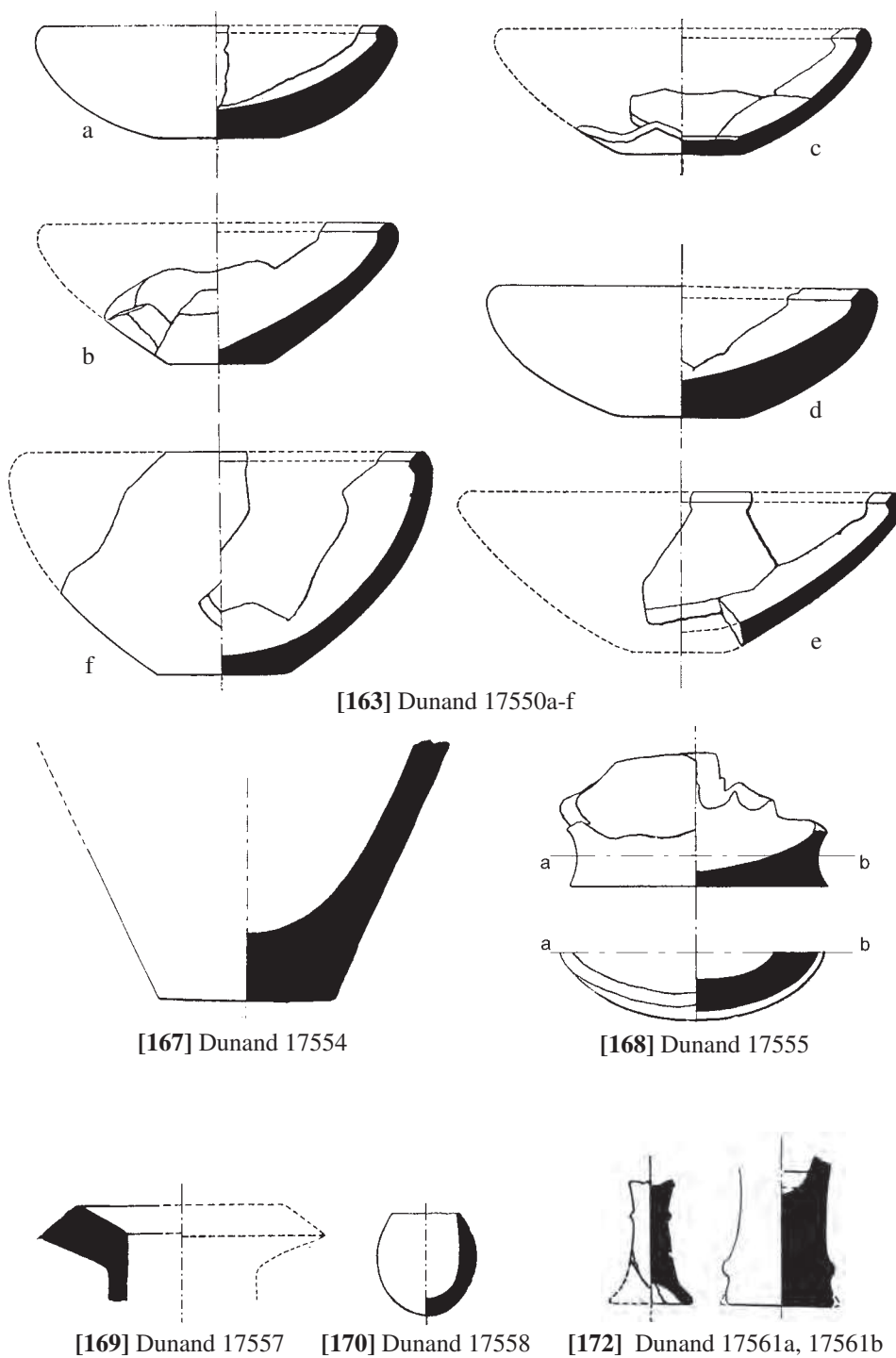
[165] Dunand 17552



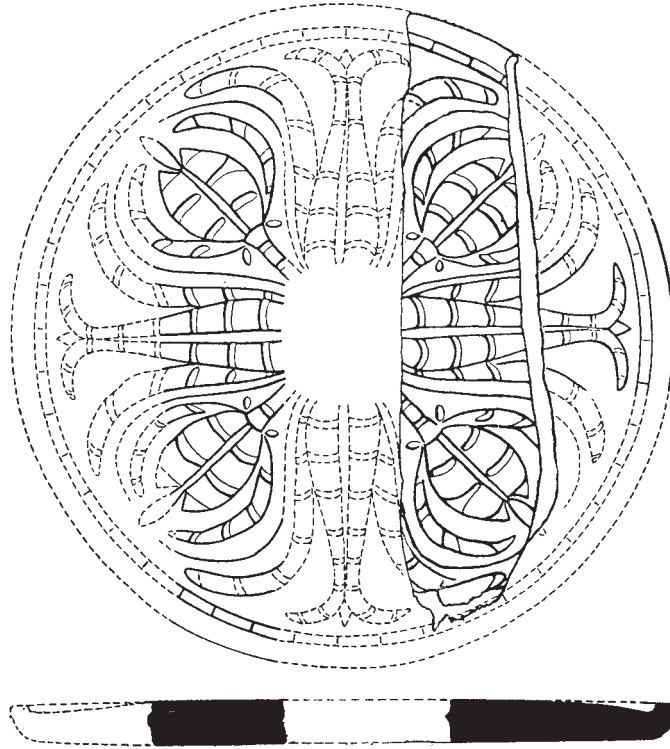
[166] Dunand 17553

FIGURE 28

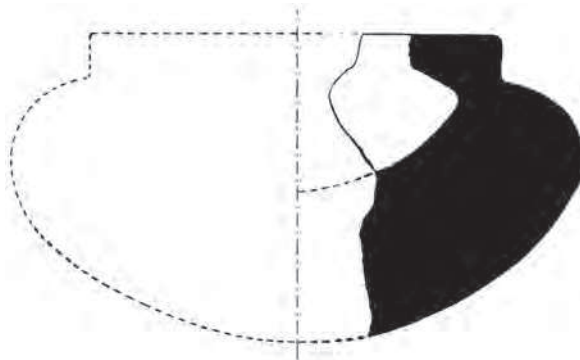
NORTHERN LEVANT: EGYPTIAN STONE VESSELS FROM BYBLOS
(AFTER DUNAND 1958) NOT TO SCALE



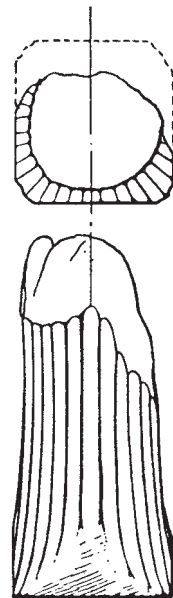
NORTHERN LEVANT: EGYPTIAN OBJECTS FROM BYBLOS
(AFTER DUNAND 1939-58) NOT TO SCALE



[174] Dunand 17563



[173] Dunand 17562



[175] Dunand 17556

FIGURE 30

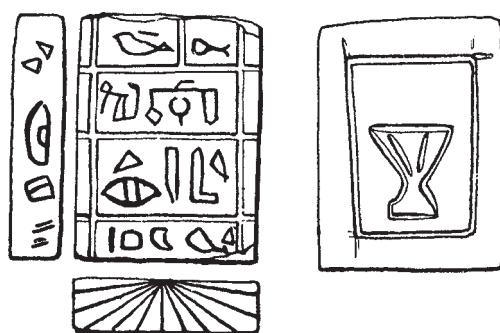
NORTHERN LEVANT: EGYPTIAN AND EGYPTIANISING OBJECTS AND ELEMENTS FROM BYBLOS



(a) Cylinder seal impression (after Montet 1928)



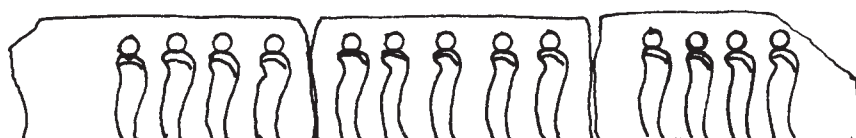
(c) Dunand 5269
(after Dunand 1939)
Not to scale



(b) Dunand 17145 (after Dunand 1958) Scale 1:1

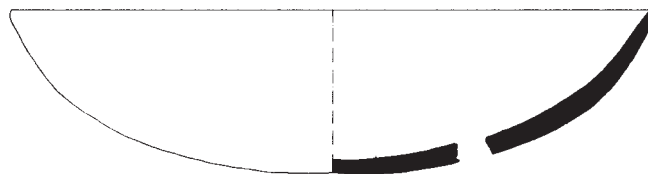


(d) Dunand 5445 (after Dunand 1939) Scale 1:1

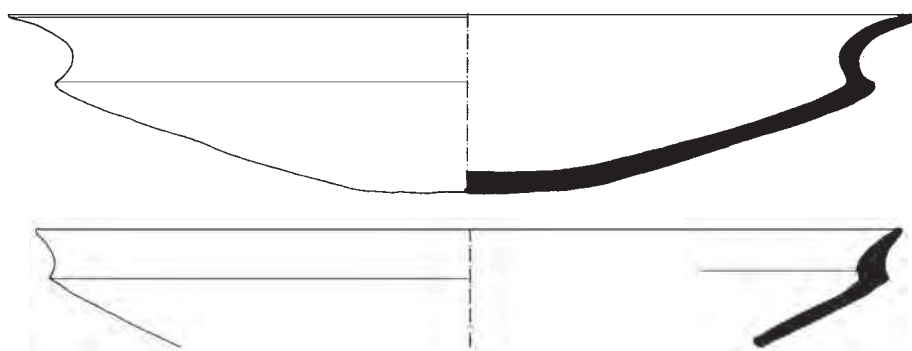


(e) Architectural element from Byblos (after Saghih 1983)

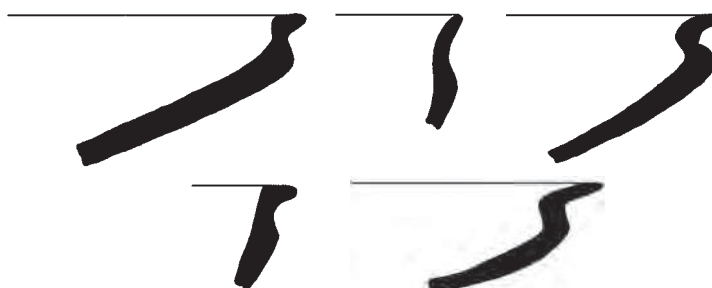
NORTHERN LEVANT: EGYPTIAN STONE VESSELS FROM EBLA
(AFTER SCANDONE MATTHIAE 1981)



[176] Reg. TM.79.G.276



[177] Regs TM.80.G.280 and TM.76.G.334



[178] Various numbers

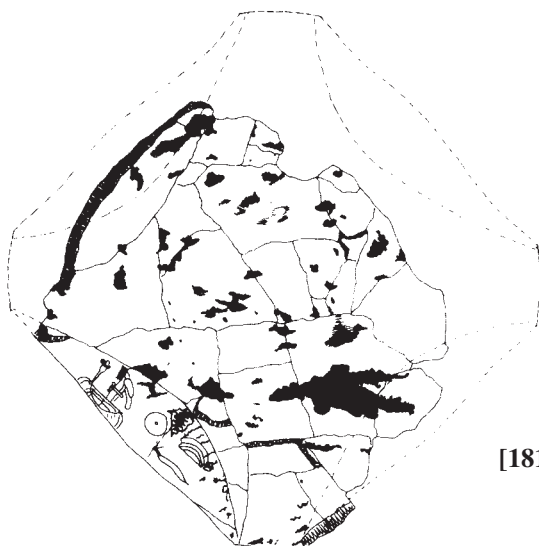


[179] Regs TM.77.G.940, 948 and 961



FIGURE 32

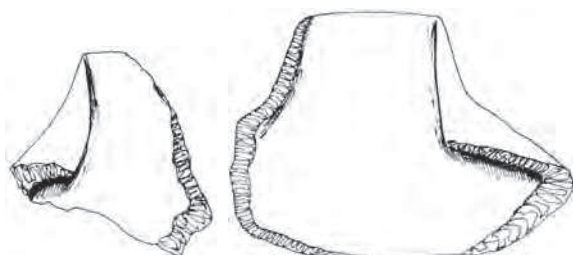
NORTHERN LEVANT: EGYPTIAN STONE VESSELS FROM EBLA
(AFTER SCANDONE MATTHIAE 1981)



[180] Reg. TM.77.G.943a etc.



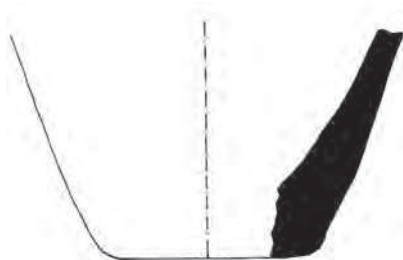
[181] Regs TM.77.G.967 and 969



[182] Regs TM.77.G.944 and 956



[184] Regs TM.78.G.147,
TM.76.G.635 and TM.77.G.711



[183] Reg. TM.78.G.285a-b

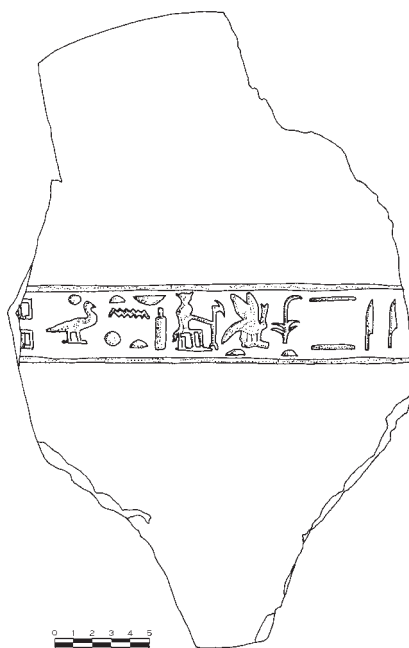


FIGURE 33

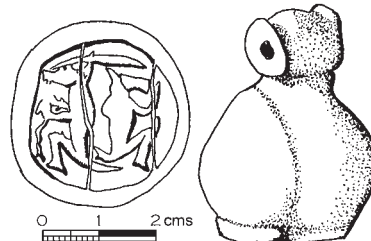
NORTHERN LEVANT: EGYPTIAN OBJECTS FROM EBLA, CYPRUS AND CRETE



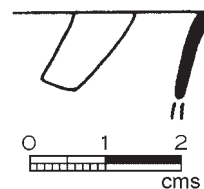
[185] Ebla TM.80.G.179
(after Scandone Matthiae 1981)



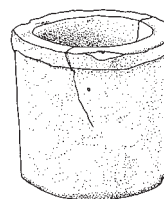
[186] Ebla TM.77.G.600
(after Scandone Matthiae 1979)



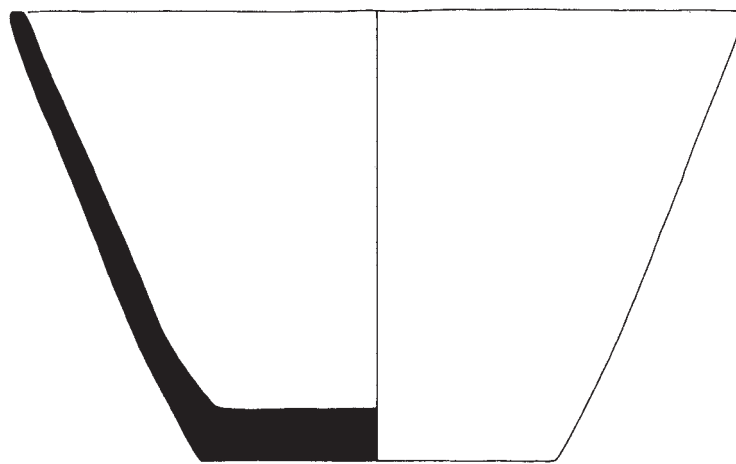
(a) Ivory seal
(after Lambrou-Phillipson 1990)



[189] Knossos KSM RRS/72/524
(after Warren and Hankey 1989)



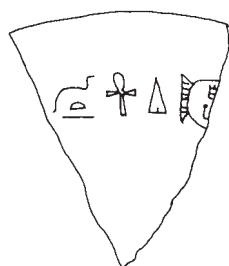
[190] Maronia Siteias HM Y 4113
Not to scale



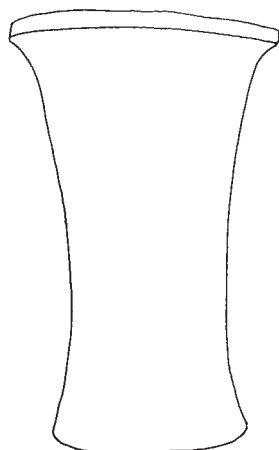
[188] Cyprus, Vasilia Tomb 103 No. 3 (after Stewart 1962)

FIGURE 34

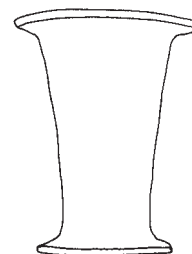
EGYPTIAN OBJECTS FROM THE 'DÉPÔTS DE FONDATION' AT BYBLOS (AFTER MONTET 1928)
NOT TO SCALE



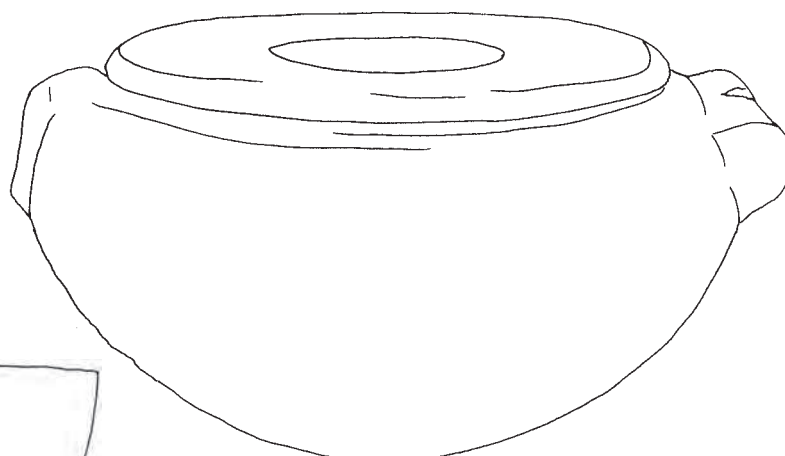
(a) App. I.1



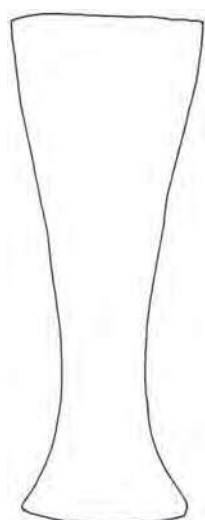
(b) App. I.30



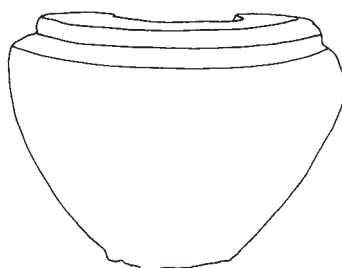
(c) App. I.40



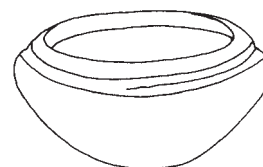
(d) App. I.34



(e) App. I.32



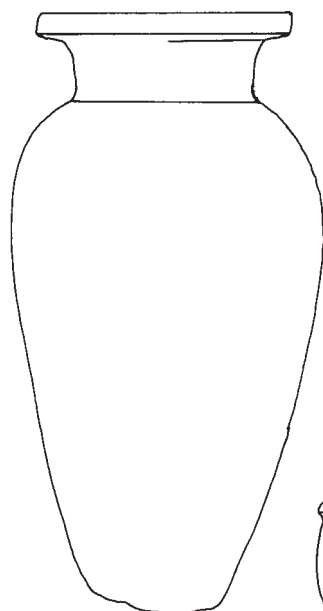
(f) App. I.36



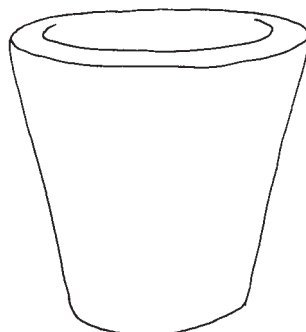
(g) App. I.51

FIGURE 35

EGYPTIAN OBJECTS FROM THE 'DÉPÔTS DE FONDATION' AT BYBLOS (AFTER MONTET 1928)
NOT TO SCALE



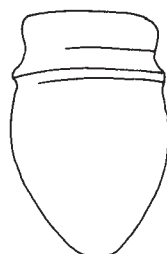
(a) App. I.44



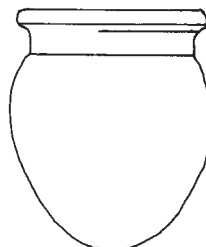
(b) App. I.50



(c) App. I.65



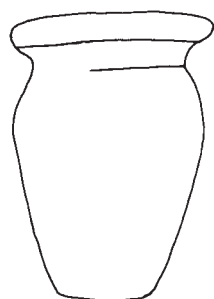
(e) App. I.57



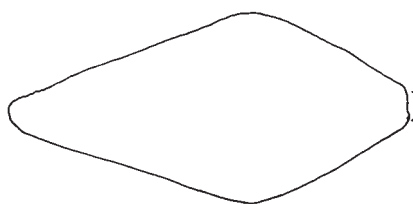
(f) App. I.62



(g) App. I.61



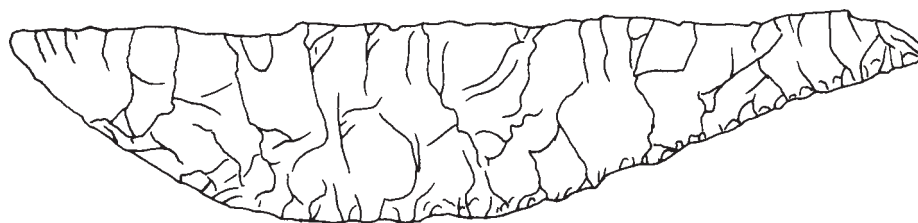
(d) App. I.45



(h) App. I.80



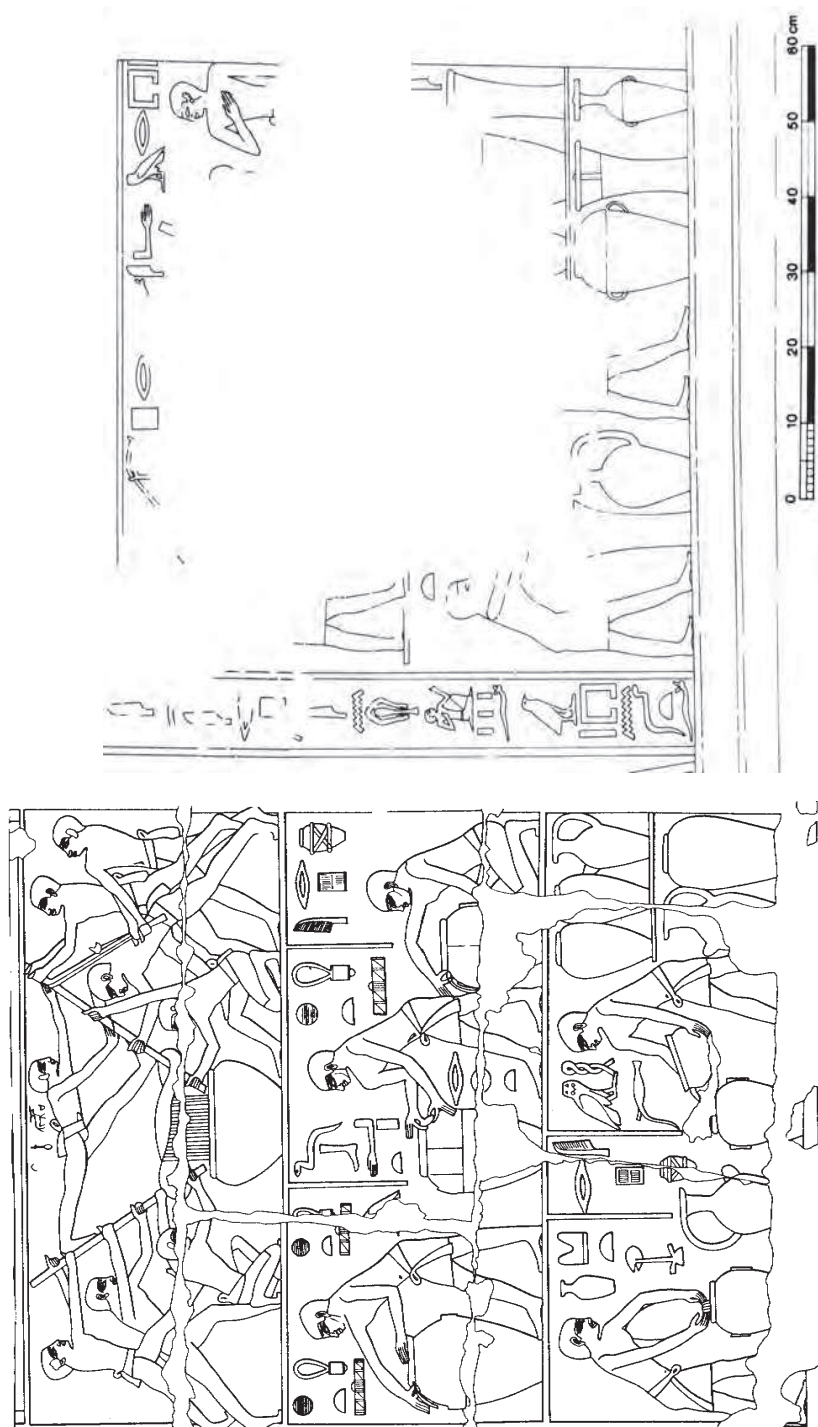
(i) App. I.54



(j) App. I.79

FIGURE 36

REPRESENTATIONS OF FOREIGN POTTERY SHAPES IN OLD KINGDOM TOMBS



(b) Tomb of Shedwaset (after Kanawati and McFarlane 1993)

(a) Tomb of Ni-ankh-Khnum and Khnum-hotep
(after Moussa and Altenmüller 1977)

FIGURE 37

SCENE FROM THE TOMB OF PTAH-HOTEP
(AFTER JUNKER 1941)

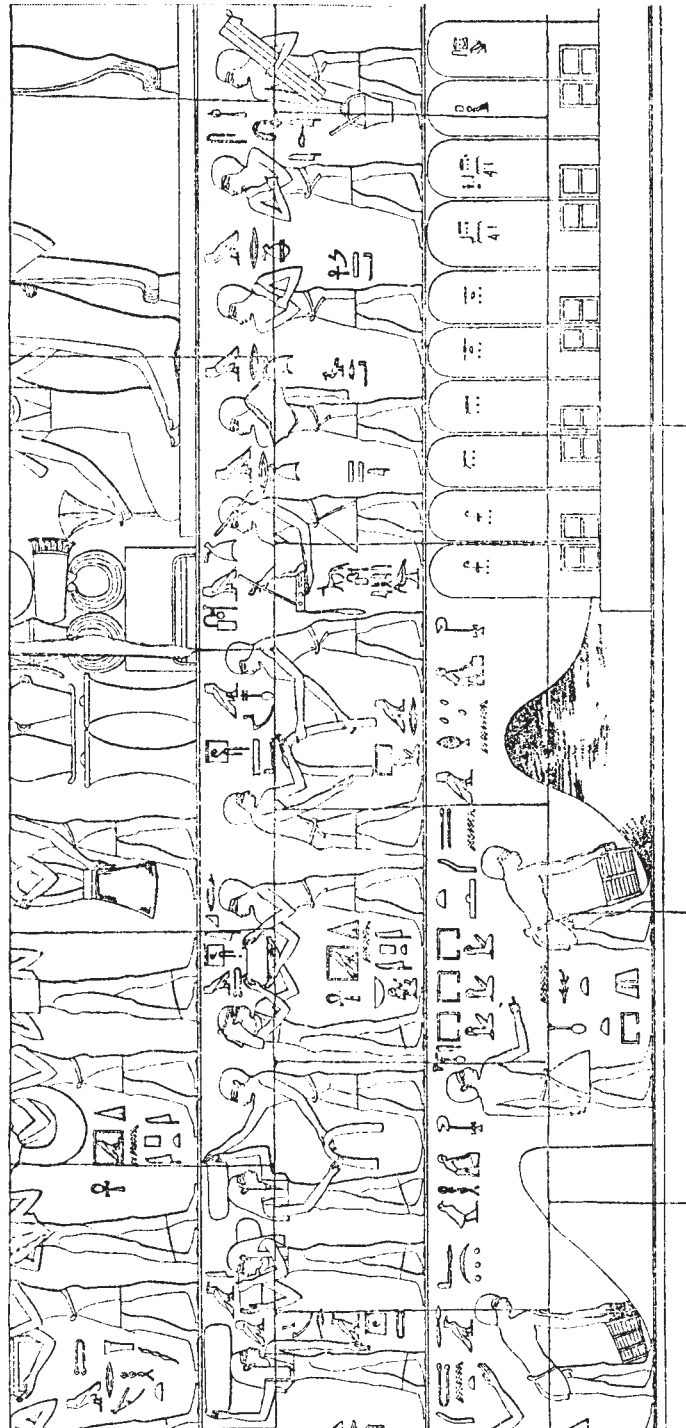


FIGURE 38

ABUSIR PAPYRUS DETAIL
(AFTER POSENER-KRIÉGER AND DE CENIVAL 1968)

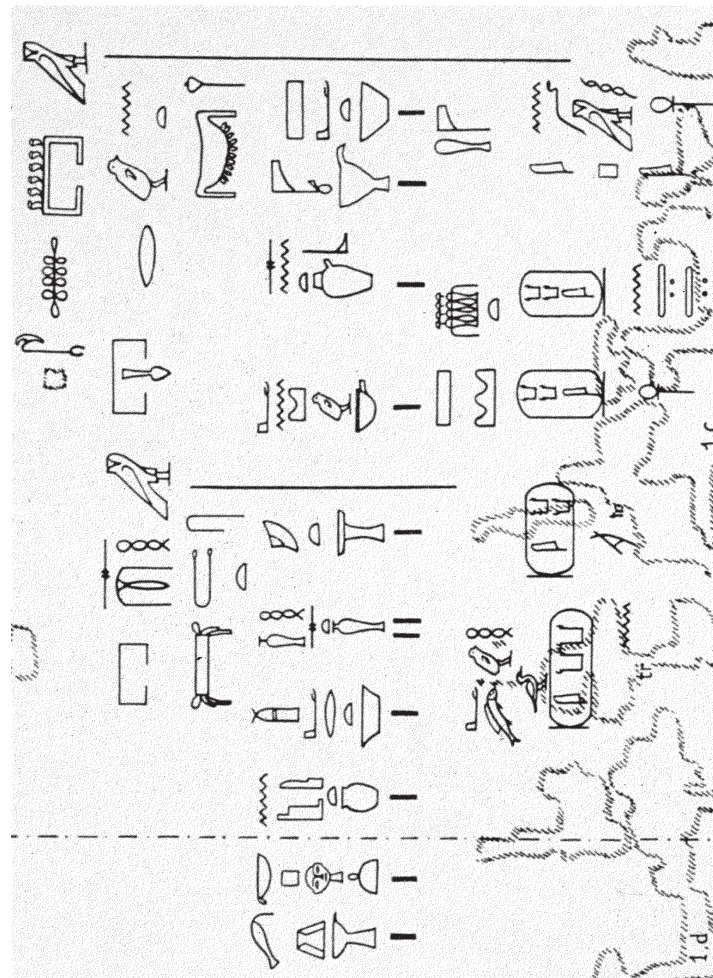


FIGURE 39

IMPORTED ANIMALS AND JARS FROM THE FUNERARY COMPLEX OF SAHURE AT ABUSIR
(AFTER BORCHARDT 1913)

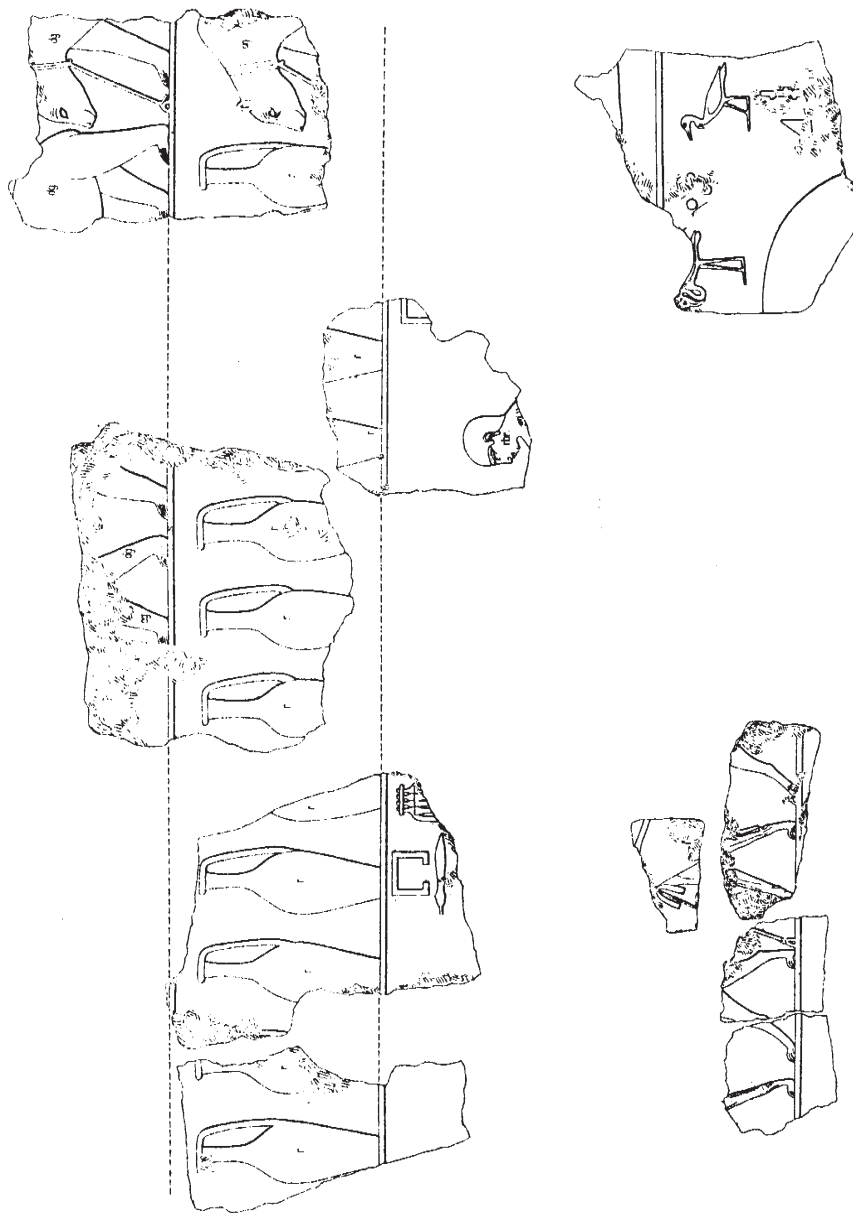


FIGURE 40

SCENE FROM THE TOMB OF NI-ANKH-KHNUM AND KHNUM-HOTEP
SHOWING LOCAL AND IMPORTED TREES (AFTER MOUSSA AND ALTENMÜLLER 1977)

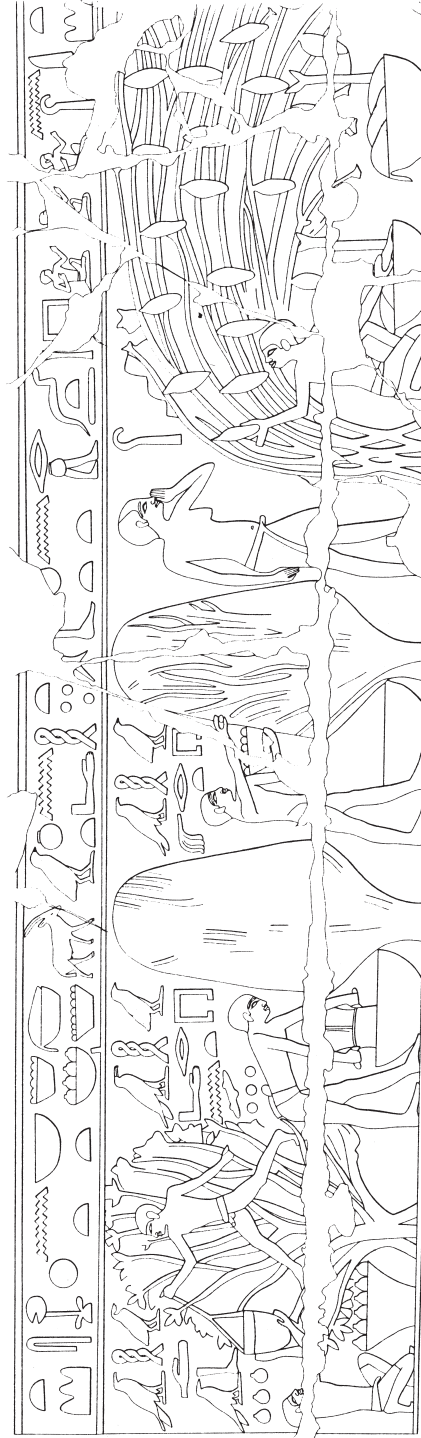


FIGURE 41

BATTLE SCENES FROM THE TOMB OF INTI AT DESHASHA
(AFTER KANAWATI AND MCFARLANE 1993)



FIGURE 42

SIEGE SCENE FROM THE TOMB OF KA-EM-HESIT AT SAQQARA
(AFTER MCFARLANE 2003)



FIGURE 43

ASIATICS ARRIVING, FROM THE FUNERARY COMPLEX OF SAHURE AT ABUSIR
(AFTER BORCHARDT 1913)

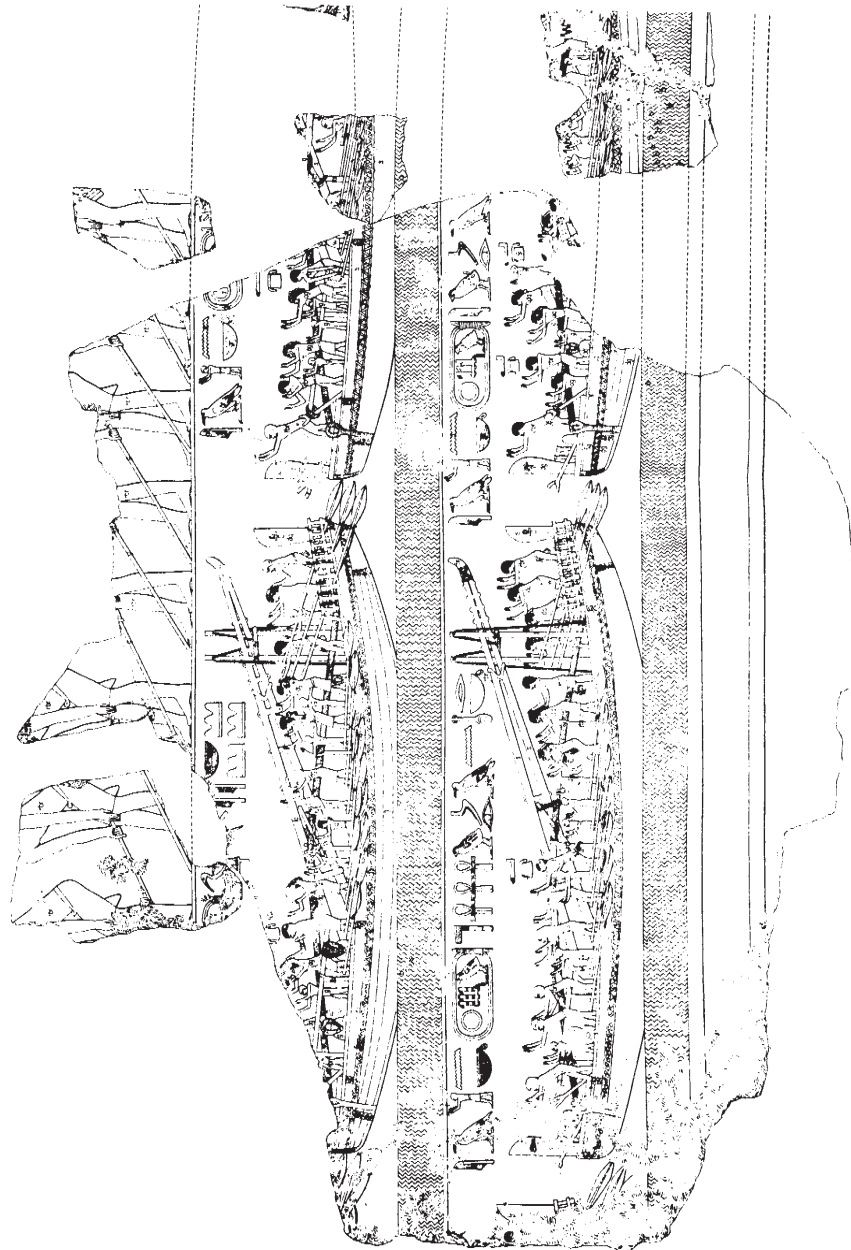


FIGURE 44

EGYPTIANISING CUPS FROM THE SANCTUARY AT AI

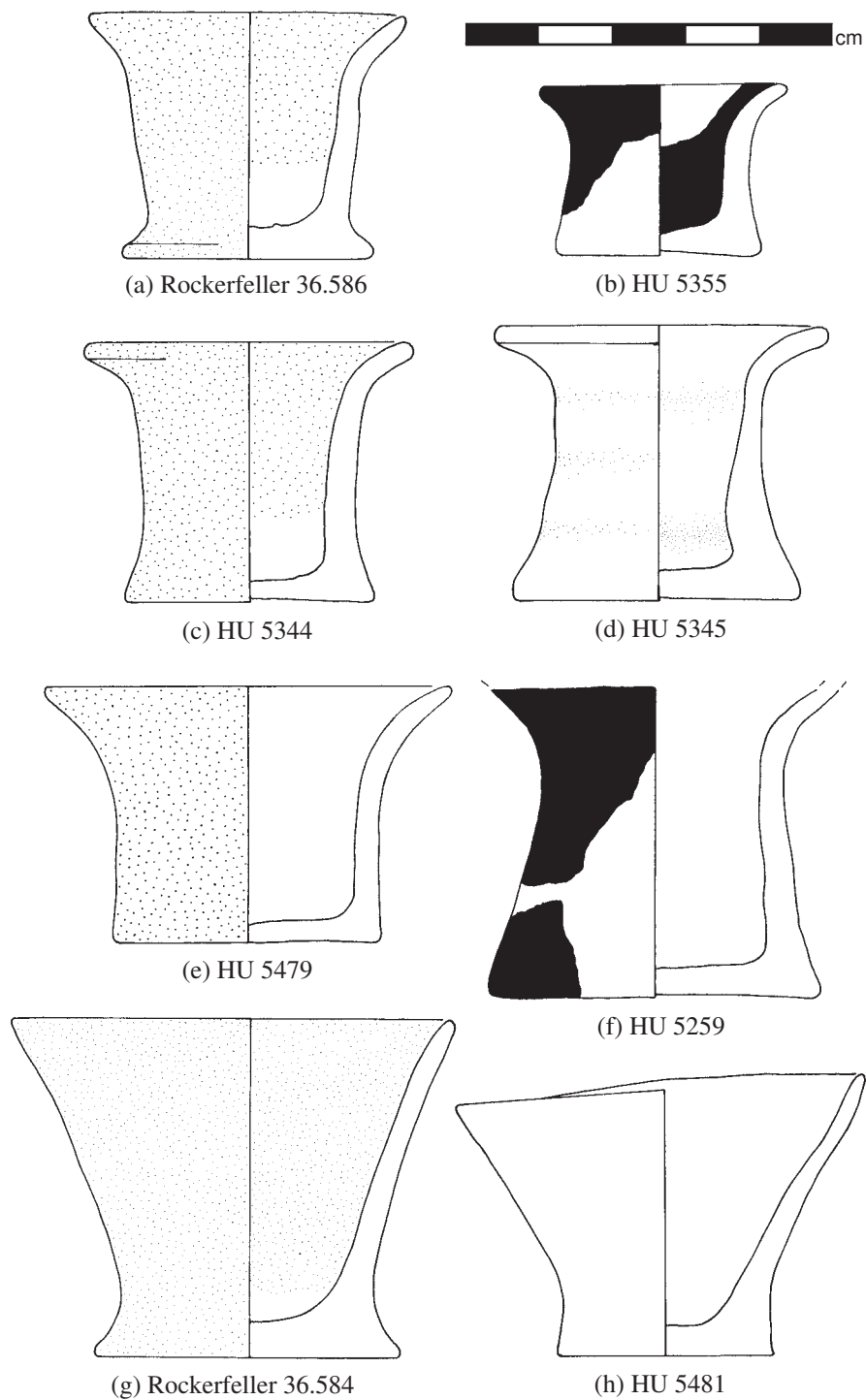


FIGURE 45

EARLY DYNASTIC / EB II EGYPTIAN EXCHANGE ROUTES IN THE EASTERN MEDITERRANEAN



FIGURE 46

EARLY DYNASTIC / EB II EGYPTIAN EXCHANGE ROUTES IN CANAAN

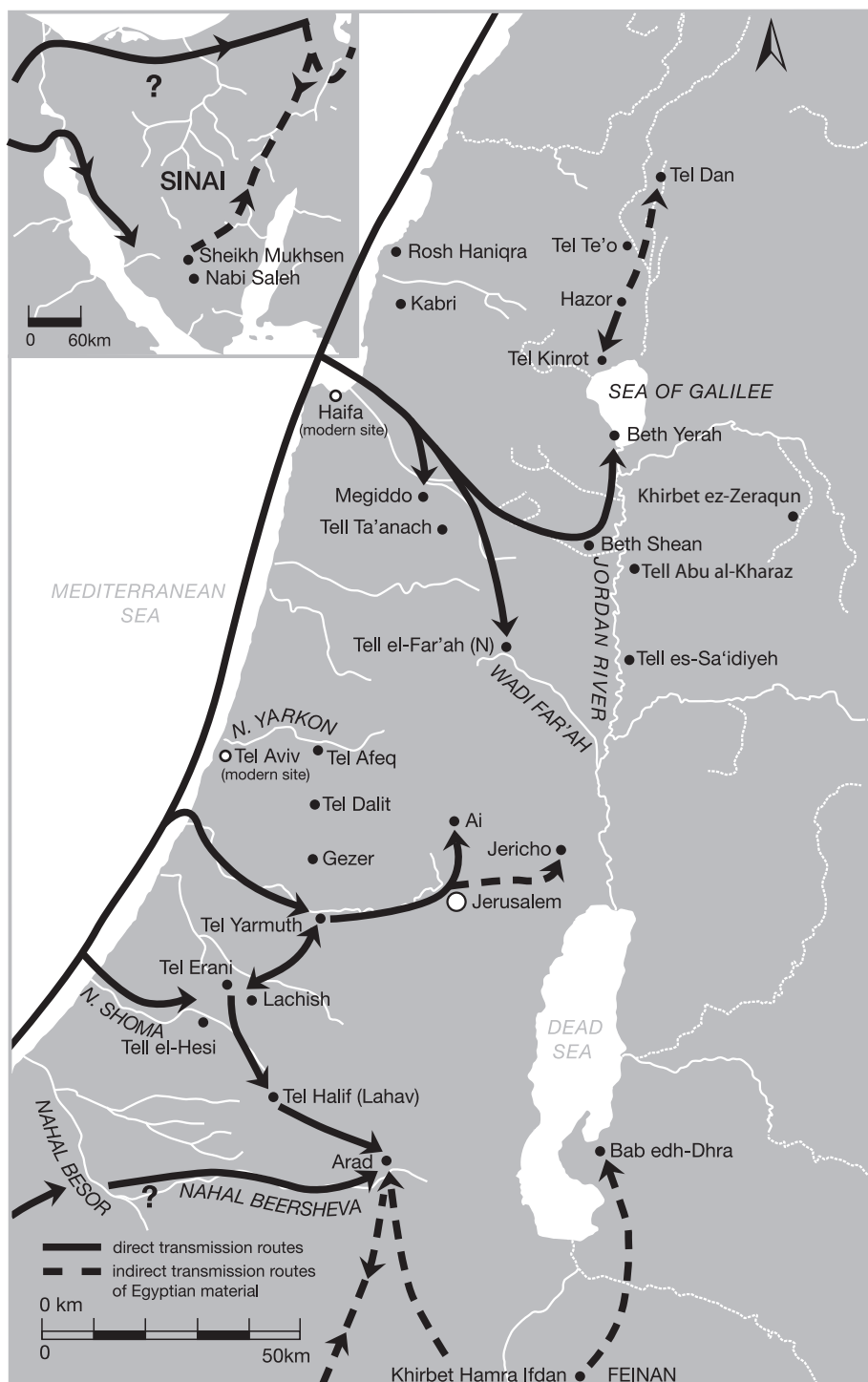


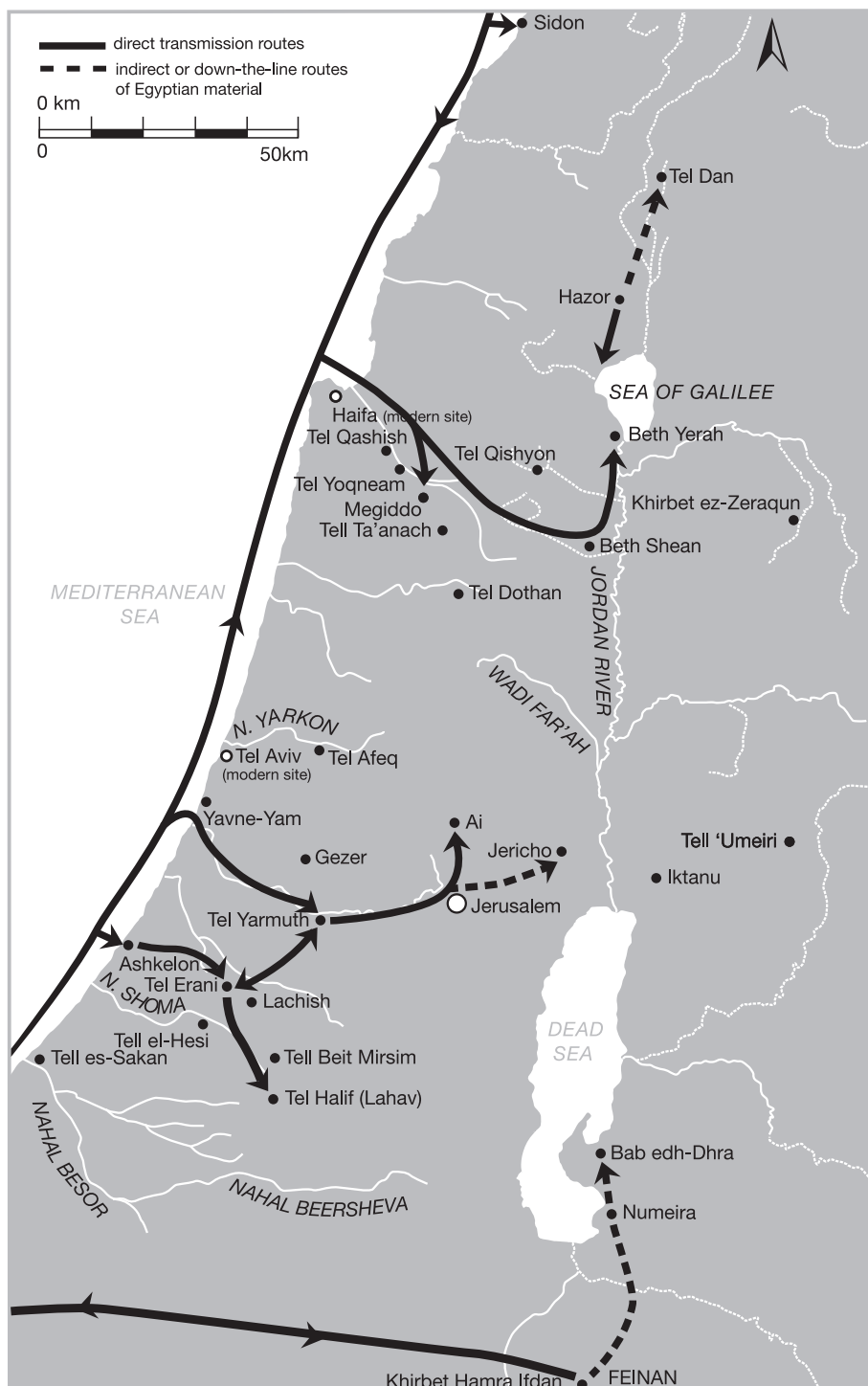
FIGURE 47

OLD KINGDOM / EB III-IV EGYPTIAN EXCHANGE ROUTES IN THE EASTERN MEDITERRANEAN



FIGURE 48

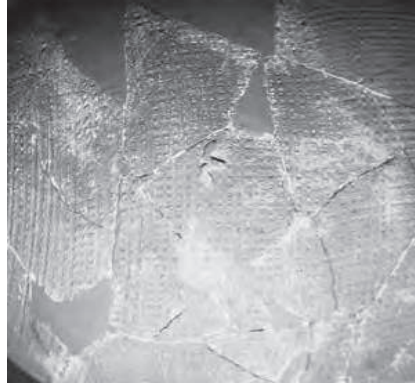
OLD KINGDOM / EB III-IV EGYPTIAN EXCHANGE ROUTES IN CANAAN



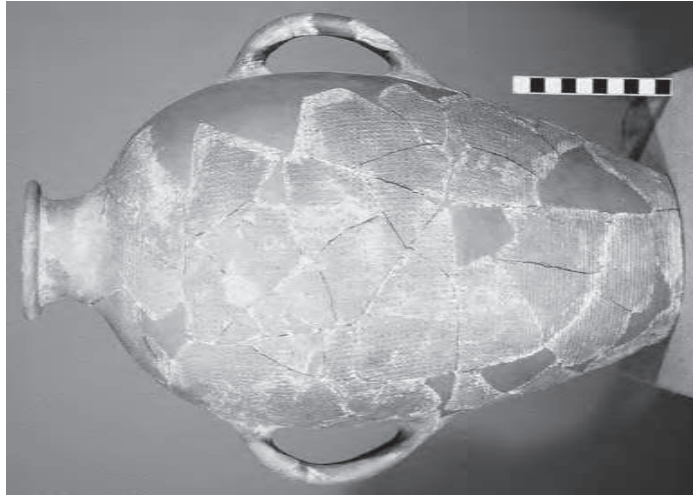
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



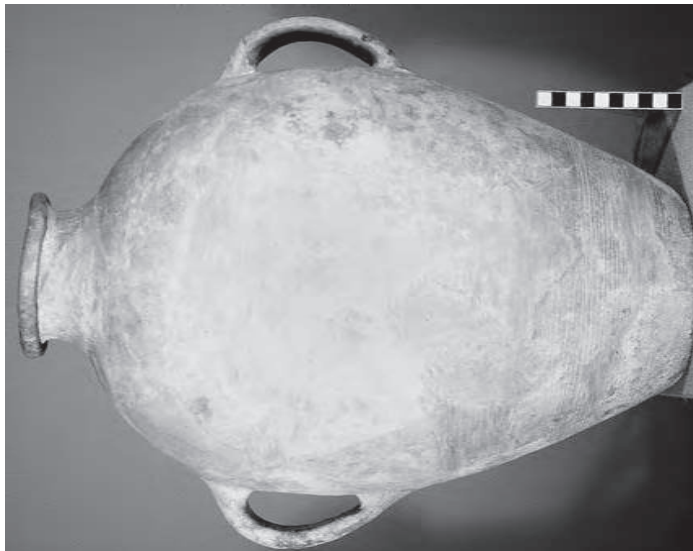
[13] Boston 37.2725 detail



[14] Boston 37.1319 detail



[14] Boston 37.1319



[13] Boston 37.2725

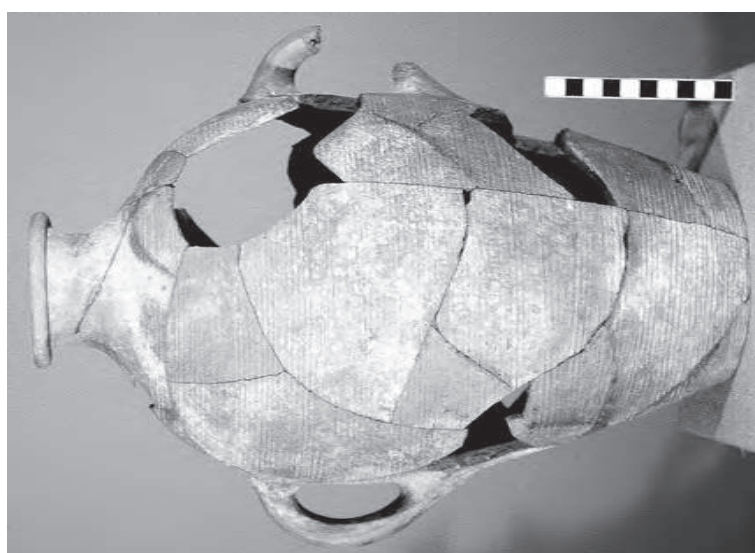
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



[19] Boston 19.1456 detail

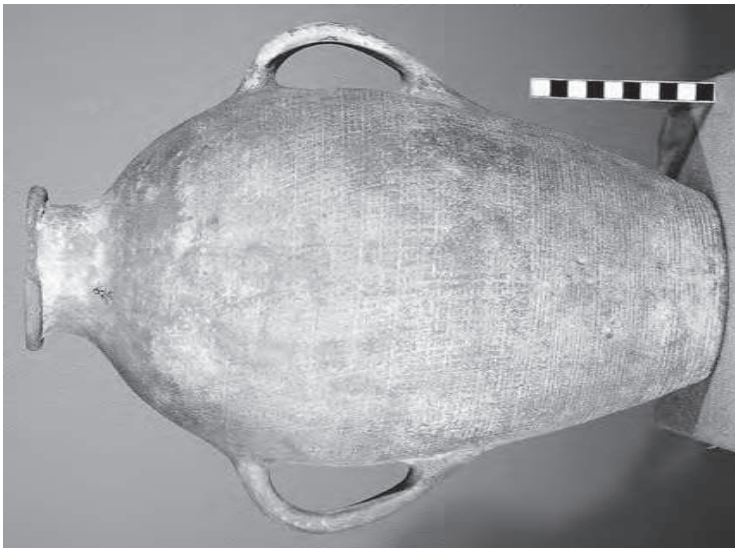


[19] Boston 19.1456



[12] Boston 37.2729

EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



[33] Boston 20.1903

Photographs © 2008 Museum of Fine Arts, Boston



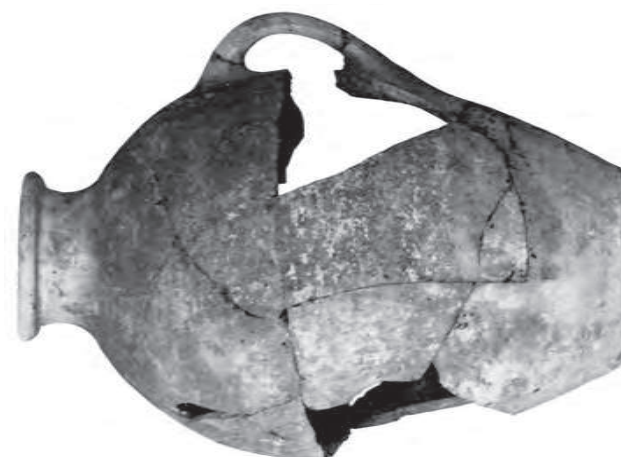
[25] Boston 47.1661 detail



[25] Boston 47.1661

PLATE 4

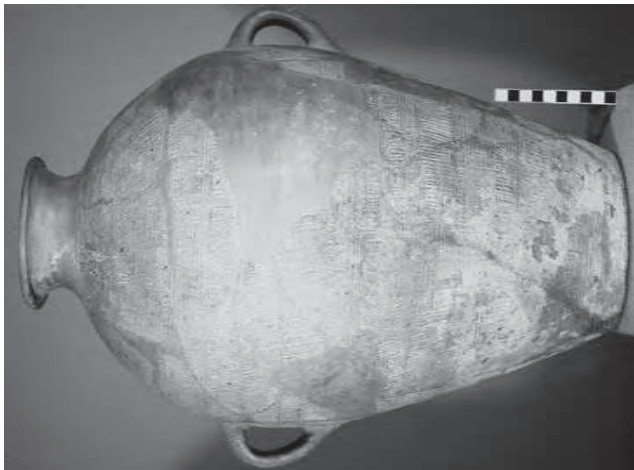
EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



[36] Leipzig 1484



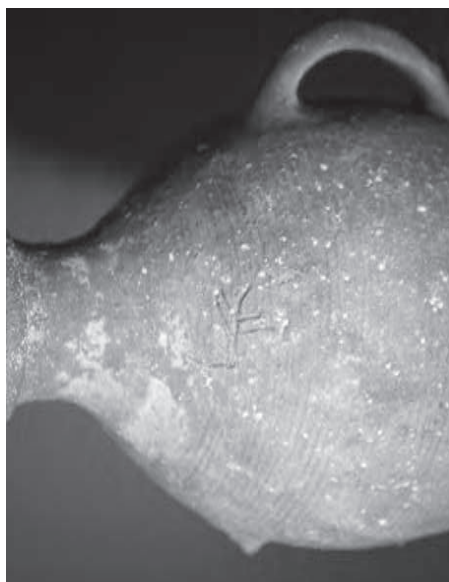
[39] Boston 47.1662



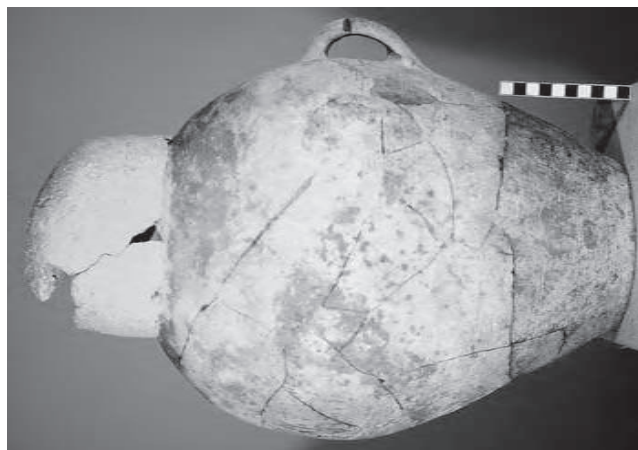
[42] Boston 37.2724

Photographs © 2008 Museum of Fine Arts, Boston

EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



[39] Boston 47.1662 detail



[47] Boston 37.2723



[47] Boston 37.2723 detail



[42] Boston 37.2724 detail

EGYPT: COMBED WARE JARS (TYPE 1) FROM GIZA



[50] Boston 13.2929



[51] Boston 13.2930



[52] Boston 13.2931



[53] Boston 13.2932

EGYPT: IMPORTED JARS (TYPES 1 AND 2) FROM GIZA AND OTHER SITES



[55] Boston 20.1904



[62] Giza, no number

Above: Photographs © 2008 Museum of Fine Arts, Boston



[85] Saqqara, Teti Cemetery TW2000:6



[100] Louvre E 16577

PLATE 8

EGYPT: ONE-HANDLED JARS (TYPE 2) FROM GIZA AND OTHER SITES



[57] Boston 20.1899



[59] Boston 20.1905

Above: Photographs © 2008 Museum of Fine Arts, Boston



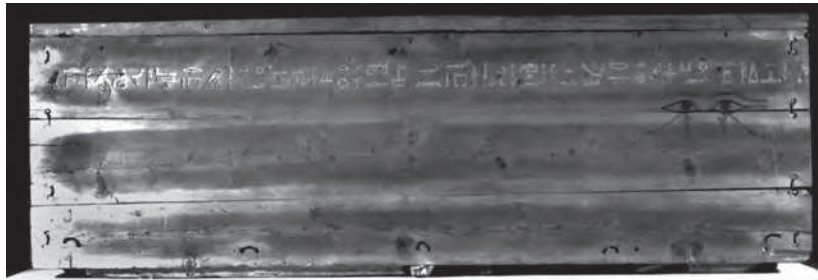
[92] Carlsberg AEIN 1241

EGYPT: IMPORTED RAW MATERIALS

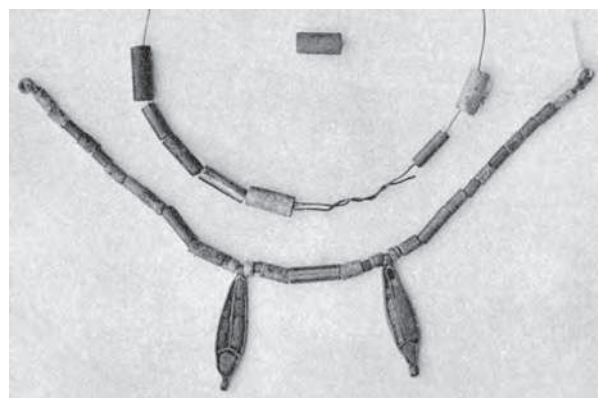


[63] Cairo JE 53271-3

Photograph © 2008 Museum of Fine Arts, Boston



[67] Hildesheim 2511



[87] Cairo CG 47840 and 47843
(after Firth and Gunn 1926)



[67] detail

EGYPT: COMBED WARE JARS (TYPE 1) FROM ABUSIR



[72] Reg. 86-4/HH/2000



[73] Reg. 86-1/HH/2000



[74] Reg. 105/HH/2001



[75] Reg. 2/HH-Sh 'C'/2002

EGYPT: COMBED WARE JARS (TYPE 1) FROM ABUSIR



[76] Reg. 86-6/HH/2000



[77] Reg. 86-2/HH/2000



[78] Reg. 86-5/HH/2000



[79] Reg. 86-12/HH/2000

EGYPT: COMBED WARE JARS (TYPE 1) FROM ABUSIR



(a) Detail showing mud cap and seal

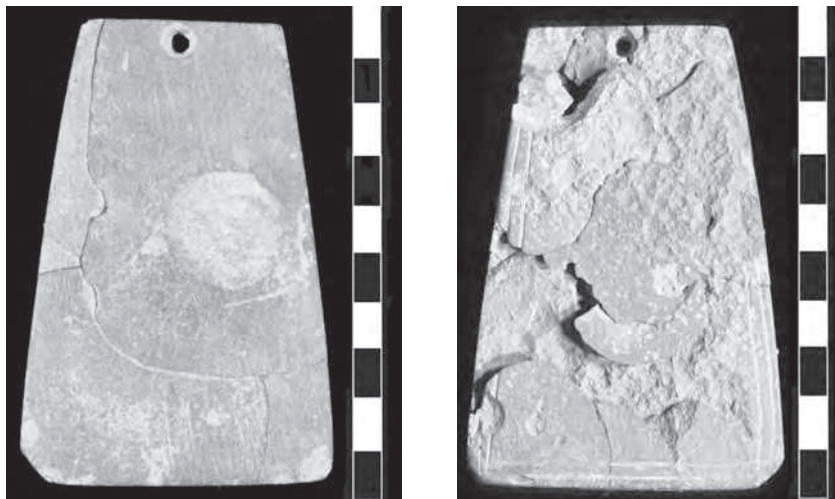


(b) Vessels from Shaft B *in situ*, [73] on far right

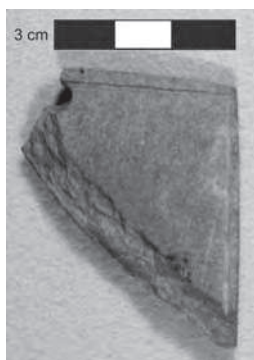


[79] Reg. 86-12/HH/2000 detail

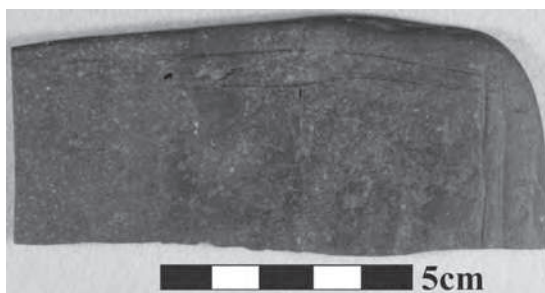
CANAAN: EGYPTIAN OBJECTS



[111] Bab edh-Dhra 1262



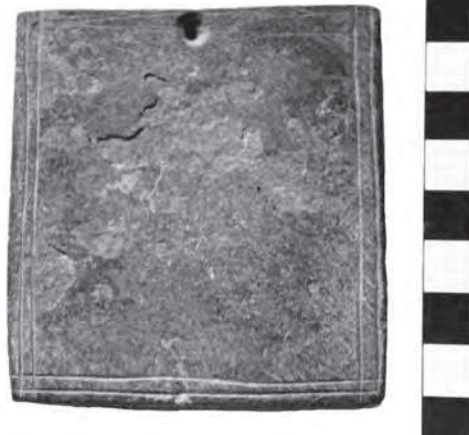
[109] Numeira 2844



[112] Bab edh-Dhra 2924



[113] Bab edh-Dhra 3364



[116] Bab edh-Dhra A21

CANAAN: EGYPTIAN OBJECTS



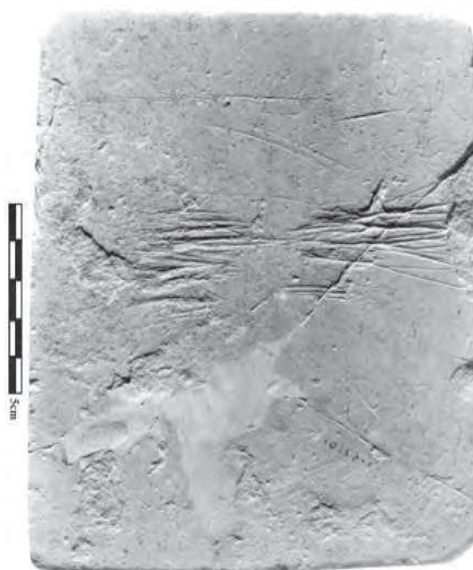
[117] Bab edh-Dhra 2823 (after Lapp 1989)



[121] Tel Halif Obj. 1083



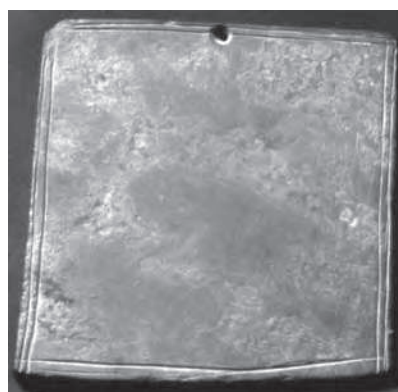
(a) Bab edh-Dhra
Charnel House A41



(b) Tel Yarmuth C.10157-1



[124] Tel Yarmuth C.14062-1



[148] Beth Yerah IAA 51-3048

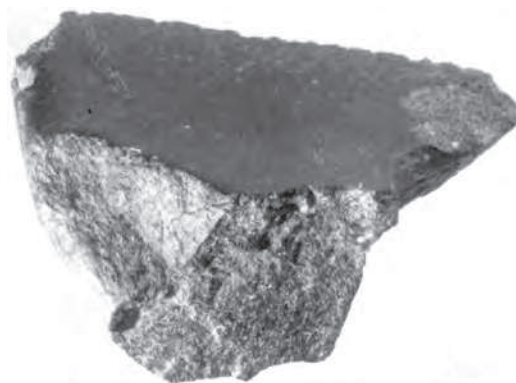
CANAAN: EGYPTIAN OBJECTS



[128] Tel Yarmuth C.5518-1



[132] Tel Yarmuth C.10073-1



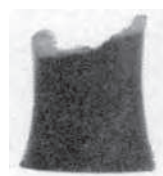
[131] Tel Yarmuth C.9516-1



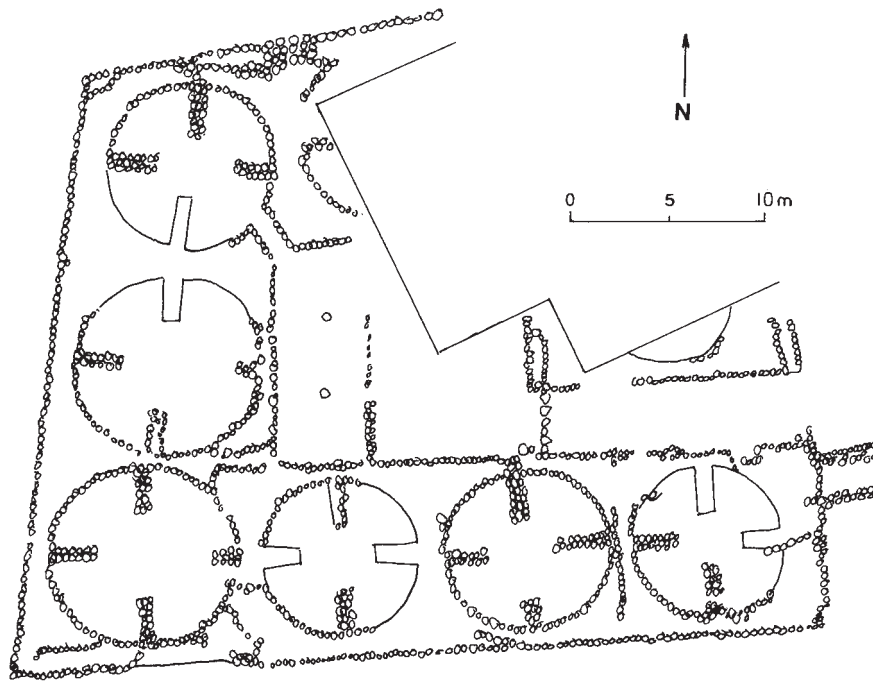
(a) Amulets from Megiddo (after Finkelstein et al. 2000)



(b) Bab edh Dhra 2860
(after Lapp 1995) Not to scale



[147] Megiddo, Chicago d 845
(after Loud 1948) Scale 1:2.5



(a) The Beth Yerah granary (after Currid 1986)



(b) 4th Dynasty model granary from Elkab (Ashmolean Museum E408)

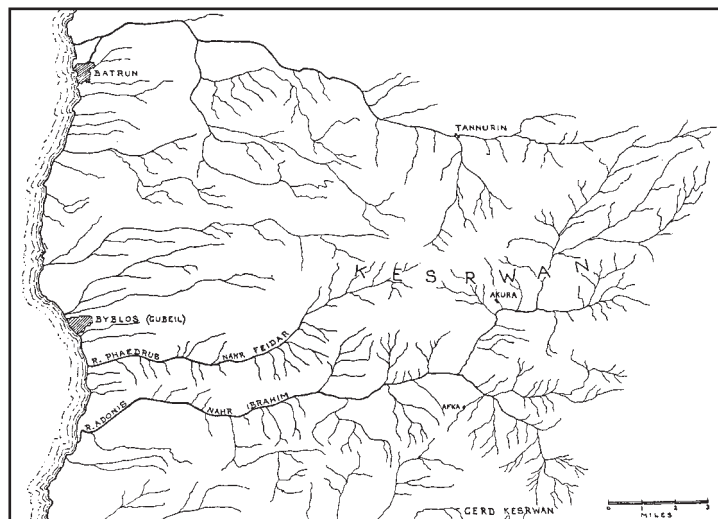
NORTHERN LEVANT: EGYPTIAN OBJECTS AND ELEMENTS



(a) Copper axe head from the mouth of the Adonis River (after Rowe 1936)



(b) Cylinder seal impression (after Montet 1928)



(c) Map of the Byblos region (after Wainwright 1934)



(d) Frieze of *uraei* from the Pyramid of Djoser, Saqqara



FOREIGNERS DEPICTED ON A RELIEF FROM THE UNAS CAUSEWAY



ORBIS BIBLICUS ET ORIENTALIS — Lieferbare Bände

- Bd. 25/1a MICHAEL LATTKKE: *Die Oden Salomos in ihrer Bedeutung für Neues Testament und Gnosis*. Band Ia. Der syrische Text der Edition in Estrangela Faksimile des griechischen Papyrus Bodmer XI. 68 Seiten. 1980.
- Bd. 25/2 MICHAEL LATTKKE: *Die Oden Salomos in ihrer Bedeutung für Neues Testament und Gnosis*. Band II. Vollständige Wortkonkordanz zur handschriftlichen, griechischen, koptischen, lateinischen und syrischen Überlieferung der Oden Salomos. Mit einem Faksimile des Kodex N. XVI–201 Seiten. 1979.
- Bd. 25/3 MICHAEL LATTKKE: *Die Oden Salomos in ihrer Bedeutung für Neues Testament und Gnosis*. Band III. XXXIV–478 Seiten. 1986.
- Bd. 25/4 MICHAEL LATTKKE: *Die Oden Salomos in ihrer Bedeutung für Neues Testament und Gnosis*. Band IV. XII–284 Seiten. 1998.
- Bd. 46 ERIK HORNING: *Der ägyptische Mythos von der Himmelskub*. Eine Ätiologie des Unvollkommenen. Unter Mitarbeit von Andreas Brodbeck, Hermann Schlögl und Elisabeth Staehelin und mit einem Beitrag von Gerhard Fecht. XII–129 Seiten, 10 Abbildungen. 1991. Dritte Auflage.
- Bd. 50/1 DOMINIQUE BARTHÉLEMY: *Critique textuelle de l'Ancien Testament*. 1. Josué, Juges, Ruth, Samuel, Rois, Chroniques, Esdras, Néhémie, Esther. Rapport final du Comité pour l'analyse textuelle de l'Ancien Testament hébreu institué par l'Alliance Biblique Universelle, établi en coopération avec Alexander R. Hulst †, Norbert Lohfink, William D. McHardy, H. Peter Rüger, coéditeur, James A. Sanders, coéditeur. 812 pages. 1982.
- Bd. 50/2 DOMINIQUE BARTHÉLEMY: *Critique textuelle de l'Ancien Testament*. 2. Isaïe, Jérémie, Lamentations. Rapport final du Comité pour l'analyse textuelle de l'Ancien Testament hébreu institué par l'Alliance Biblique Universelle, établi en coopération avec Alexander R. Hulst †, Norbert Lohfink, William D. McHardy, H. Peter Rüger, coéditeur, James A. Sanders, coéditeur. 1112 pages. 1986.
- Bd. 50/3 DOMINIQUE BARTHÉLEMY: *Critique textuelle de l'Ancien Testament*. Tome 3. Ezéchiel, Daniel et les 12 Prophètes. Rapport final du Comité pour l'analyse textuelle de l'Ancien Testament hébreu institué par l'Alliance Biblique Universelle, établi en coopération avec Alexander R. Hulst †, Norbert Lohfink, William D. McHardy, H. Peter Rüger †, coéditeur, James A. Sanders, coéditeur. 1424 pages. 1992.
- Bd. 50/4 DOMINIQUE BARTHÉLEMY: *Critique textuelle de l'Ancien Testament*. Tome 4. Psaumes. Rapport final du comité pour l'analyse textuelle de l'Ancien Testament hébreu institué par l'Alliance biblique Universelle, établi en coopération avec Alexander R. Hulst, Norbert Lohfink, William D. McHardy, H. Peter Rüger, coéditeur, James A. Sanders, coéditeur, édité à partir du manuscrit inachevé de Dominique Barthélemy par Stephen Desmond Ryan et Adrian Schenker. XLVI–938 pages. 2005.
- Bd. 53 URS WINTER: *Frau und Göttin*. Exegetische und ikonographische Studien zum weiblichen Gottesbild im Alten Israel und in dessen Umwelt. XVIII–928 Seiten, 520 Abbildungen. 1983. 2. Auflage 1987. Mit einem Nachwort zur 2. Auflage.
- Bd. 55 PETER FREI / KLAUS KOCH: *Reichsidee und Reichsorganisation im Perserreich*. 352 Seiten, 17 Abbildungen. 1996. Zweite, bearbeitete und erweiterte Auflage.

- Bd. 71 HANS-PETER MATHYS: *Liebe deinen Nächsten wie dich selbst*. Untersuchungen zum alttestamentlichen Gebot der Nächstenliebe (Lev 19, 18). XII–204 Seiten. 1986. 2. verbesserte Auflage 1990.
- Bd. 125 BENJAMIN SASS / CHRISTOPH UEHLINGER (eds.): *Studies in the Iconography of Northwest semitic Inscribed Seals*. Proceedings of a symposium held in Fribourg on April 17–20, 1991. 368 pages, 532 illustrations. 1993.
- Bd. 131 WALTER BURKERT / FRITZ STOLZ (Hrsg.): *Hymnen der Alten Welt im Kulturvergleich*. 134 Seiten. 1994.
- Bd. 132 HANS-PETER MATHYS: *Dichter und Beter*. Theologen aus spätalttestamentlicher Zeit. 392 Seiten. 1994.
- Bd. 133 REINHARD G. LEHMANN: *Friedrich Delitzsch und der Babel-Bibel-Streit*. 472 Seiten, 13 Tafeln. 1994.
- Bd. 135 OTHMAR KEEL: *Studien zu den Stempelsiegeln aus Palästina/Israel*. Band IV. Mit Registern zu den Bänden I–IV. XII–340 Seiten mit Abbildungen, 24 Seiten Tafeln. 1994.
- Bd. 136 HERMANN-JOSEF STIPP: *Das masoretische und alexandrinische Sondergut des Jeremia-buches*. Textgeschichtlicher Rang, Eigenarten, Triebkräfte. VII–196 Seiten. 1994.
- Bd. 137 PETER ESCHWEILER: *Bildzauber im alten Ägypten*. Die Verwendung von Bildern und Gegenständen in magischen Handlungen nach den Texten des Mittleren und Neuen Reiches. X–380 Seiten, 28 Seiten Tafeln. 1994.
- Bd. 138 CHRISTIAN HERRMANN: *Ägyptische Amulette aus Palästina/Israel*. Mit einem Ausblick auf ihre Rezeption durch das Alte Testament. XXIV–1000 Seiten, 70 Seiten Bildtafeln. 1994.
- Bd. 140 IZAK CORNELIUS: *The Iconography of the Canaanite Gods Reshef and Baal*. Late Bronze and Iron Age I Periods (c 1500–1000 BCE). XII–326 pages with illustrations, 56 plates. 1994.
- Bd. 141 JOACHIM FRIEDRICH QUACK: *Die Lehren des Ani*. Ein neuägyptischer Weisheitstext in seinem kulturellen Umfeld. X–344 Seiten, 2 Bildtafeln. 1994.
- Bd. 143 KLAUS BIEBERSTEIN: *Josua-Jordan-Jericho*. Archäologie, Geschichte und Theologie der Landnahmeerzählungen Josua 1–6. XII–494 Seiten. 1995.
- Bd. 144 CHRISTL MAIER: *Die «fremde Frau» in Proverbien 1–9*. Eine exegetische und sozialgeschichtliche Studie. XII–304 Seiten. 1995.
- Bd. 145 HANS ULRICH STEYMANS: *Deuteronomium 28 und die adē zur Thronfolgeregelung Asarhaddons*. Segen und Fluch im Alten Orient und in Israel. XII–436 Seiten. 1995.
- Bd. 146 FRIEDRICH ABITZ: *Pharao als Gott in den Unterweltbüchern des Neuen Reiches*. VIII–228 Seiten. 1995.
- Bd. 147 GILLES ROULIN: *Le Livre de la Nuit. Une composition égyptienne de l'au-delà*. I^{re} partie: traduction et commentaire. XX–420 pages. II^e partie: copie synoptique. X–169 pages, 21 planches. 1996.
- Bd. 148 MANUEL BACHMANN: *Die strukturalistische Artefakt- und Kunstanalyse*. Exposition der Grundlagen anhand der vorderorientalischen, ägyptischen und griechischen Kunst. 88 Seiten mit 40 Abbildungen. 1996.
- Bd. 150 ELISABETH STAEHELIN / BERTRAND JAEGER (Hrsg.): *Ägypten-Bilder*. Akten des «Symposiums zur Ägypten-Rezeption», Augst bei Basel, vom 9.–11. September 1993. 384 Seiten Text, 108 Seiten mit Abbildungen. 1997.

- Bd. 151 DAVID A. WARBURTON: *State and Economy in Ancient Egypt*. Fiscal Vocabulary of the New Kingdom. 392 pages. 1996.
- Bd. 152 FRANÇOIS ROSSIER SM: *L'intercession entre les hommes dans la Bible hébraïque*. L'intercession entre les hommes aux origines de l'intercession auprès de Dieu. 408 pages. 1996.
- Bd. 153 REINHARD GREGOR KRATZ / THOMAS KRÜGER (Hrsg.): *Rezeption und Auslegung im Alten Testament und in seinem Umfeld*. Ein Symposium aus Anlass des 60. Geburtstags von Odil Hannes Steck. 148 Seiten. 1997.
- Bd. 154 ERICH BOSSHARD-NEPUSTIL: *Rezeptionen von Jesaja 1–39 im Zwölfprophetenbuch*. Untersuchungen zur literarischen Verbindung von Prophetenbüchern in babylonischer und persischer Zeit. XIV–534 Seiten. 1997.
- Bd. 155 MIRIAM LICHTHEIM: *Moral Values in Ancient Egypt*. 136 pages. 1997.
- Bd. 156 ANDREAS WAGNER (Hrsg.): *Studien zur hebräischen Grammatik*. VIII–212 Seiten. 1997.
- Bd. 157 OLIVIER ARTUS: *Etudes sur le livre des Nombres*. Récit, Histoire et Loi en Nb 13,1–20,13. X–310 pages. 1997.
- Bd. 158 DIETER BÖHLER: *Die heilige Stadt in Esdras α und Esra-Nehemia*. Zwei Konzeptionen der Wiederherstellung Israels. XIV–464 Seiten. 1997.
- Bd. 159 WOLFGANG OSWALD: *Israel am Gottesberg*. Eine Untersuchung zur Literargeschichte der vorderen Sinaiperikope Ex 19–24 und deren historischem Hintergrund. X–300 Seiten. 1998.
- Bd. 160/1 JOSEF BAUER / ROBERT K. ENGLUND / MANFRED KREBERNIK: *Mesopotamien: Späturuk-Zeit und Frühdynastische Zeit*. Annäherungen 1. Herausgegeben von Pascal Attinger und Markus Wäfler. 640 Seiten. 1998.
- Bd. 160/3 WALTHER SALLABERGER / AAGE WESTENHOLZ: *Mesopotamien: Akkade-Zeit und Ur III-Zeit*. Annäherungen 3. Herausgegeben von Pascal Attinger und Markus Wäfler. 424 Seiten. 1999.
- Bd. 160/4 DOMINIQUE CHARPIN / DIETZ OTTO EDZARD / MARTEN STOL: *Mesopotamien: Die altbabylonische Zeit*. Annäherungen 4. Herausgegeben von Pascal Attinger, Walther Sallaberger und Markus Wäfler. 1040 Seiten. 2004.
- Bd. 160/5 KLAAS R. VEENHOF / JESPER EIDEM: *Mesopotamia: The Old Assyrian Period*. Annäherungen 5. Herausgegeben von Markus Wäfler. 384 Seiten. 2008.
- Bd. 161 MONIKA BERNETT / OTHMAR KEEL: *Mond, Stier und Kult am Stadttor*. Die Stele von Betsaida (et-Tell). 175 Seiten mit 121 Abbildungen. 1998.
- Bd. 162 ANGELIKA BERLEJUNG: *Die Theologie der Bilder*. Herstellung und Einweihung von Kultbildern in Mesopotamien und die alttestamentliche Bilderpolemik. 1998. XII–560 Seiten. 1998.
- Bd. 163 SOPHIA K. BIETENHARD: *Des Königs General*. Die Heerführertraditionen in der vor-staatlichen und frühen staatlichen Zeit und die Joabgestalt in 2 Sam 2–20; 1 Kön 1–2. 388 Seiten. 1998.
- Bd. 164 JOACHIM BRAUN: *Die Musikkultur Altisraels/Palästinas*. Studien zu archäologischen, schriftlichen und vergleichenden Quellen. XII–372 Seiten, 288 Abbildungen. 1999.
- Bd. 165 SOPHIE LAFONT: *Femmes, Droit et Justice dans l'Antiquité orientale*. Contribution à l'étude du droit pénal au Proche-Orient ancien. XVI–576 pages. 1999.

- Bd. 166 ESTHER FLÜCKIGER-HAWKER: *Urnamma of Ur in Sumerian Literary Tradition*. XVIII–426 pages, 25 plates. 1999.
- Bd. 167 JUTTA BOLLWEG: *Vorderasiatische Wagentypen*. Im Spiegel der Terracottaplastik bis zur Altbabylonischen Zeit. 160 Seiten und 68 Seiten Abbildungen. 1999.
- Bd. 168 MARTIN ROSE: *Rien de nouveau*. Nouvelles approches du livre de Qohéleth. Avec une bibliographie (1988–1998) élaborée par Béatrice Perregaux Allisson. 648 pages. 1999.
- Bd. 169 MARTIN KLINGBEIL: *Yahweh Fighting from Heaven*. God as Warrior and as God of Heaven in the Hebrew Psalter and Ancient Near Eastern Iconography. XII–374 pages. 1999.
- Bd. 170 BERND ULRICH SCHIPPER: *Israel und Ägypten in der Königszeit*. Die kulturellen Kontakte von Salomo bis zum Fall Jerusalems. 344 Seiten und 24 Seiten Abbildungen. 1999.
- Bd. 171 JEAN-DANIEL MACCHI: *Israël et ses tribus selon Genèse 49*. 408 pages. 1999.
- Bd. 172 ADRIAN SCHENKER: *Recht und Kult im Alten Testament*. Achtzehn Studien. 232 Seiten. 2000.
- Bd. 173 GABRIELE THEUER: *Der Mondgott in den Religionen Syrien-Palästinas*. Unter besonderer Berücksichtigung von KTU 1.24. XVI–658 Seiten und 11 Seiten Abbildungen. 2000.
- Bd. 174 CATHIE SPIESER: *Les noms du Pharaon comme êtres autonomes au Nouvel Empire*. XII–304 pages et 108 pages d'illustrations. 2000.
- Bd. 175 CHRISTOPH UEHLINGER (ed.): *Images as media – Sources for the cultural history of the Near East and the Eastern Mediterranean (1st millennium BCE)*. Proceedings of an international symposium held in Fribourg on November 25–29, 1997. XXXII–424 pages with 178 figures, 60 plates. 2000.
- Bd. 176 ALBERT DE PURY / THOMAS RÖMER (Hrsg.): *Die sogenannte Thronfolgegeschichte Davids*. Neue Einsichten und Anfragen. 212 Seiten. 2000.
- Bd. 177 JÜRG EGGLER: *Influences and Traditions Underlying the Vision of Daniel 7:2-14*. The Research History from the End of the 19th Century to the Present. VIII–156 pages. 2000.
- Bd. 178 OTHMAR KEEL / URS STAUB: *Hellenismus und Judentum*. Vier Studien zu Daniel 7 und zur Religionsnot unter Antiochus IV. XII–164 Seiten. 2000.
- Bd. 179 YOHANAN GOLDMAN / CHRISTOPH UEHLINGER (éds.): *La double transmission du texte biblique*. Etudes d'histoire du texte offertes en hommage à Adrian Schenker. VI–130 pages. 2001.
- Bd. 180 UTA ZWINGENBERGER: *Dorfkultur der frühen Eisenzeit in Mittelpalästina*. XX–612 Seiten. 2001.
- Bd. 181 HUBERT TITA: *Gelübde als Bekenntnis*. Eine Studie zu den Gelübden im Alten Testament. XVI–272 Seiten. 2001.
- Bd. 182 KATE BOSSE-GRIFFITHS: *Amarna Studies, and other selected papers*. Edited by J. Gwyn Griffiths. 264 pages. 2001.
- Bd. 183 TITUS REINMUTH: *Der Bericht Nebemias*. Zur literarischen Eigenart, traditions-geschichtlichen Prägung und innerbiblischen Rezeption des Ich-Berichts Nehemias. XIV–402 Seiten. 2002.
- Bd. 184 CHRISTIAN HERRMANN: *Ägyptische Amulette aus Palästina/Israel II*. XII–188 Seiten und 36 Seiten Abbildungen. 2002.

- Bd. 185 SILKE ROTH: *Gebietlerin aller Länder*. Die Rolle der königlichen Frauen in der fiktiven und realen Aussenpolitik des ägyptischen Neuen Reiches. XII–184 Seiten. 2002.
- Bd. 186 ULRICH HÜBNER / ERNST AXEL KNAUF (Hrsg.): *Kein Land für sich allein*. Studien zum Kulturkontakt in Kanaan, Israel/Palästina und Ebirnâri. Für Manfred Weippert zum 65. Geburtstag. VIII–352 Seiten. 2002.
- Bd. 187 PETER RIEDE: *Im Spiegel der Tiere*. Studien zum Verhältnis von Mensch und Tier im alten Israel. 392 Seiten, 34 Abbildungen. 2002.
- Bd. 188 ANNETTE SCHELLENBERG: *Erkenntnis als Problem*. Qohelet und die alttestamentliche Diskussion um das menschliche Erkennen. XII–348 Seiten. 2002.
- Bd. 189 GEORG MEURER: *Die Feinde des Königs in den Pyramidentexten*. VIII–442 Seiten. 2002.
- Bd. 190 MARIE MAUSSION: *Le mal, le bien et le jugement de Dieu dans le livre de Qobélet*. VIII–216 pages. 2003.
- Bd. 191 MARKUS WITTE / STEFAN ALKIER (Hrsg.): *Die Griechen und der Vordere Orient*. Beiträge zum Kultur- und Religionskontakt zwischen Griechenland und dem Vordere Orient im 1. Jahrtausend v. Chr. X–150 Seiten. 2003.
- Bd. 192 KLAUS KOENEN: *Bethel*. Geschichte, Kult und Theologie. X–270 Seiten. 2003.
- Bd. 193 FRIEDRICH JUNGE: *Die Lehre Ptahhoteps und die Tugenden der ägyptischen Welt*. 304 Seiten. 2003.
- Bd. 194 JEAN-FRANÇOIS LEFEBVRE: *Le jubilé biblique*. Lv 25 – exégèse et théologie. XII–460 pages. 2003.
- Bd. 195 WOLFGANG WETTENGEL: *Die Erzählung von den beiden Brüdern*. Der Papyrus d'Orbiney und die Königsideologie der Ramessiden. VI–314 Seiten. 2003.
- Bd. 196 ANDREAS VONACH / GEORG FISCHER (Hrsg.): *Horizonte biblischer Texte*. Festschrift für Josef M. Oesch zum 60. Geburtstag. XII–328 Seiten. 2003.
- Bd. 197 BARBARA NEVLING PORTER: *Trees, Kings, and Politics*. XVI–124 pages. 2003.
- Bd. 198 JOHN COLEMAN DARNELL: *The Enigmatic Netherworld Books of the Solar-Osirian Unity*. Cryptographic Compositions in the Tombs of Tutankhamun, Ramesses VI, and Ramesses IX. 712 pages. 2004.
- Bd. 199 ADRIAN SCHENKER: *Älteste Textgeschichte der Königsbücher*. Die hebräische Vorlage der ursprünglichen Septuaginta als älteste Textform der Königsbücher. 224 Seiten. 2004.
- Bd. 200 HILDI KEEL-LEU / BEATRICE TEISSIER: *Die vorderasiatischen Rollsiegel der Sammlungen «Bibel+Orient» der Universität Freiburg Schweiz / The Ancient Near Eastern Cylinder Seals of the Collections «Bible+Orient» of the University of Fribourg*. XXII–412 Seiten, 70 Tafeln. 2004.
- Bd. 201 STEFAN ALKIER / MARKUS WITTE (Hrsg.): *Die Griechen und das antike Israel*. Interdisziplinäre Studien zur Religions- und Kulturgeschichte des Heiligen Landes. VIII–216 Seiten. 2004.
- Bd. 202 ZEINAB SAYED MOHAMED: *Festvorbereitungen*. Die administrativen und ökonomischen Grundlagen altägyptischer Feste. XVI–200 Seiten. 2004.

- Bd. 203 VÉRONIQUE DASEN (éd.): *Naissance et petite enfance dans l'Antiquité*. Actes du colloque de Fribourg, 28 novembre – 1^{er} décembre 2001. 432 pages. 2004.
- Bd. 204 IZAK CORNELIUS: *The Many Faces of the Goddess*. The Iconography of the Syro-Palestinian Goddesses Anat, Astarte, Qadesh, and Asherah ca. 1500-1000 BCE. XVI–208 pages, 108 plates. 2004.
- Bd. 205 LUDWIG D. MORENZ: *Bild-Buchstaben und symbolische Zeichen*. Die Herausbildung der Schrift in der hohen Kultur Altägyptens. XXII–390 Seiten. 2004.
- Bd. 206 WALTER DIETRICH (Hrsg.): *David und Saul im Widerstreit – Diachronie und Synchronie im Wettstreit*. Beiträge zur Auslegung des ersten Samuelbuches. 320 Seiten. 2004.
- Bd. 207 INNOCENT HIMBAZA: *Le Décalogue et l'histoire du texte*. Etudes des formes textuelles du Décalogue et leurs implications dans l'histoire du texte de l'Ancien Testament. XIV–376 pages. 2004.
- Bd. 208 CORNELIA ISLER-KERÉNYI: *Civilizing Violence*. Satyrs on 6th Century Greek Vases. XII–132 pages. 2004.
- Bd. 209 BERND U. SCHIPPER: *Die Erzählung des Wenamun*. Ein Literaturwerk im Spannungsfeld von Politik, Geschichte und Religion. Ca. 400 Seiten, 6 Tafeln. 2005.
- Bd. 210 CLAUDIA E. SUTER / CHRISTOPH UEHLINGER (eds.): *Crafts and Images in Contact*. Studies in Eastern Mediterranean Art of the First Millennium BCE. XL–375 pages, 50 plates. 2005.
- Bd. 211 ALEXIS LEONAS: *Recherches sur le langage de la Septante*. 360 pages. 2005.
- Bd. 212 BRENT A. STRAWN: *What Is Stronger than a Lion? Leonine Image and Metaphor in the Hebrew Bible and the Ancient Near East*. XXX–602 pages, 483 figures. 2005.
- Bd. 213 TALLAY ORNAN: *The Triumph of the Symbol*. Pictorial Representation of Deities in Mesopotamia and the Biblical Image Ban. XXXII–488 pages, 220 figures. 2005.
- Bd. 214 DIETER BÖHLER / INNOCENT HIMBAZA / PHILIPPE HUGO (eds.): *L'Écrit et l'Esprit*. Etudes d'histoire du texte et de théologie biblique en hommage à Adrian Schenker. 512 pages. 2005.
- Bd. 215 SÉAMUS O'CONNELL: *From Most Ancient Sources*. The Nature and Text-Critical Use of Greek Old Testament Text of the Complutensian Polyglot Bible. XII–188 pages. 2006.
- Bd. 216 ERIKA MEYER-DIETRICH: *Senebi und Selbst*. Personenkonstituenten zur rituellen Wiedergeburt in einem Frauensarg des Mittleren Reiches. XII–412 Seiten, 26 Tafeln. 2006.
- Bd. 217 PHILIPPE HUGO: *Les deux visages d'Élie*. Texte massorétique et Septante dans l'histoire la plus ancienne du texte de 1 Rois 17-18. XX–396 pages. 2006.
- Bd. 218 STEFAN ZAWADZKI: *Garments of the Gods*. Studies on the Textile Industry and the Pantheon of Sippar according to the Texts from the Ebabbar Archive. XXIV–264 pages. 2006.
- Bd. 219 CARSTEN KNIGGE: *Das Lob der Schöpfung*. Die Entwicklung ägyptischer Sonnen- und Schöpfungshymnen nach dem Neuen Reich. XII–372 Seiten. 2006.
- Bd. 220 SILVIA SCHROER (ed.): *Images and Gender*. Contributions to the Hermeneutics of Reading Ancient Art. 392 pages, 29 plates. 2006.

- Bd. 221 CHRISTINE STARK: «*Kultprostitution*» im Alten Testament? Die Qedeschen der Hebräischen Bibel und das Motiv der Hurerei. 262 Seiten. 2006.
- Bd. 222 DAGMAR PRUIN: *Geschichten und Geschichte*. Isebel als literarische und historische Gestalt. XII–424 Seiten. 2006.
- Bd. 223 PIERRE COULANGE: *Dieu, ami des pauvres*. Etude sur la connivence entre le Très-Haut et les petits. 304 pages. 2007.
- Bd. 224 ANDREAS WAGNER (Hrsg.): *Parallelismus membrorum*. 320 Seiten. 2007.
- Bd. 225 CHRISTIAN HERRMANN: *Formen für ägyptische Fayencen aus Qantir II*. Katalog der Sammlung des Franciscan Biblical Museum, Jerusalem, und zweier Privatsammlungen. 176 Seiten. 2007.
- Bd. 226 JENS HEISE: *Erinnern und Gedenken*. Aspekte der biographischen Inschriften der ägyptischen Spätzeit. IV–396 Seiten. 2007.
- Bd. 227 HENRIKE FREY-ANTHES: *Unheilsmächte und Schutzgenien, Antiwesen und Grenzgänger*. Vorstellungen von Dämonen im alten Israel. 384 Seiten. 2007.
- Bd. 228 BOB BECKING: *From David to Gedaliah*. The Book of Kings as Story and History. XII–236 pages. 2007.
- Bd. 229 ULRIKE DUBIEL: *Amulette, Siegel und Perlen*. Studien zu Typologie und Tragesitte im Alten und Mittleren Reich. 250 Seiten. 2007.
- Bd. 230 MARIANA GIOVINO: *The Assyrian Sacred Tree*. A History of Interpretations. VIII–314 pages. 2007.
- Bd. 231 PAUL KÜBEL: *Metamorphosen der Paradieserzählung*. X–246 Seiten. 2007.
- Bd. 232 SARIT PAZ: *Drums, Women, and Goddesses*. Drumming and Gender in Iron Age II Israel. XII–156 pages. 2007.
- Bd. 233 INNOCENT HIMBAZA / ADRIAN SCHENKER (éds.): *Un carrefour dans l'histoire de la Bible*. Du texte à la théologie au II^e siècle avant J.-C. X–158 pages. 2007.
- Bd. 234 RICARDO TAVARES: *Eine königliche Weisheitslehre?* Exegetische Analyse von Sprüche 28–29 und Vergleich mit den ägyptischen Lehren Merikaras und Amenemhats. XIV–314 Seiten. 2007.
- Bd. 235 MARKUS WITTE / JOHANNES F. DIEHL (Hrsg.): *Israeliten und Phönizier*. Ihre Beziehungen im Spiegel der Archäologie und der Literatur des Alten Testaments und seiner Umwelt. VIII–304 Seiten. 2008.
- Bd. 236 MARCUS MÜLLER-ROTH: *Das Buch vom Tage*. XII–644 Seiten. 2008.

Sonderband CATHERINE MITTERMAYER, *Altbabylonische Zeichenliste der sumerisch-literarischen Texte*. XII–292 Seiten. 2006.

Sonderband SUSANNE BICKEL / RENÉ SCHURTE / SILVIA SCHROER / CHRISTOPH UEHLINGER (eds.): *Bilder als Quellen / Images as Sources*. Studies on ancient Near Eastern artefacts and the Bible inspired by the work of Othmar Keel. XLVI–560 pages. 2007.

Weitere Informationen zur Reihe OBO: www.unifr.ch/dbs/publication_obo.html

ACADEMIC PRESS FRIBOURG
VANDENHOECK & RUPRECHT GÖTTINGEN

- Bd. 9 CLAUDE DOUMET: *Sceaux et cylindres orientaux: la collection Chiha*. Préface de Pierre Amiet. 220 pages, 24 pages d'illustrations. 1992.
- Bd. 10 OTHMAR KEEL: *Corpus der Stempelsiegel-Amulette aus Palästina/Israel*. Von den Anfängen bis zur Perserzeit. Einleitung. 376 Seiten mit 603 Abbildungen im Text. 1995.
- Bd. 11 BEATRICE TEISSIER: *Egyptian Iconography on Syro-Palestinian Cylinder Seals of the Middle Bronze Age*. XII–224 pages with numerous illustrations, 5 plates. 1996.
- Bd. 12 ANDRÉ B. WIESE: *Die Anfänge der ägyptischen Stempelsiegel-Amulette*. Eine typologische und religionsgeschichtliche Untersuchung zu den «Knopfsiegeln» und verwandten Objekten der 6. bis frühen 12. Dynastie. XXII–366 Seiten mit 1426 Abbildungen. 1996.
- Bd. 13 OTHMAR KEEL: *Corpus der Stempelsiegel-Amulette aus Palästina/Israel*. Von den Anfängen bis zur Perserzeit. Katalog Band I. Von Tell Abu Farağ bis 'Atlit. VIII–808 Seiten mit 375 Phototafeln. 1997.
- Bd. 14 PIERRE AMIET / JACQUES BRIEND / LILIANE COURTOIS / JEAN-BERNARD DUMORTIER: *Tell el Far'ab*. Histoire, glyptique et céramologie. 100 pages. 1996.
- Bd. 15 DONALD M. MATTHEWS: *The Early Glyptic of Tell Brak*. Cylinder Seals of Third Millennium Syria. XIV–312 pages, 59 plates. 1997.
- Bd. 17 OLEG BERLEV / SVETLANA HODJASH: *Catalogue of the Monuments of Ancient Egypt*. From the Museums of the Russian Federation, Ukraine, Bielorusia, Caucasus, Middle Asia and the Baltic States. XIV–336 pages, 208 plates. 1998.
- Bd. 18 ASTRID NUNN: *Der figürliche Motivschatz Phöniziens, Syriens und Transjordanien vom 6. bis zum 4. Jahrhundert v. Chr.* 280 Seiten und 92 Seiten Illustrationen. 2000.
- Bd. 19 ANDREA M. BIGNASCA: *I kernoî circolari in Oriente e in Occidente*. Strumenti di culto e immagini cosmiche. XII–328 Seiten, Tafeln und Karten inbegriffen. 2000.
- Bd. 20 DOMINIQUE BEYER: *Emar IV. Les sceaux. Mission archéologique de Meskéne-Emar. Recherches au pays d'Aštata*. XXII–496 pages, 66 planches. 2001.
- Bd. 21 MARKUS WÄFLER: *Tall al-Ḥamīdīya 3*. Zur historischen Geographie von Idamaras, zur Zeit der Archive von Mari(2) und Šubat-enlil/Šeḫnā. Mit Beiträgen von Jimmy Brignoni und Henning Paul. 304 Seiten. 14 Karten. 2001.
- Bd. 22 CHRISTIAN HERRMANN: *Die ägyptischen Amulette der Sammlungen BIBEL+ORIENT der Universität Freiburg Schweiz*. X–294 Seiten, davon 126 Bildtafeln inbegriffen. 2003.
- Bd. 23 MARKUS WÄFLER: *Tall al-Ḥamīdīya 4*. Vorbericht 1988–2001. 272 Seiten. 20 Pläne. 2004.
- Bd. 24 CHRISTIAN HERRMANN: *Ägyptische Amulette aus Palästina/Israel*. Band III. XII–364 Seiten, davon 107 Seiten Bildtafeln. 2006.
- Bd. 25 JÜRG EGGELER / OTHMAR KEEL: *Corpus der Siegel-Amulette aus Jordanien*. Vom Neolithikum bis zur Perserzeit. XVIII–518 Seiten. 2006.
- Bd. 26 OSKAR KÄELIN: *«Modell Ägypten»*. Adoption von Innovationen im Mesopotamien des 3. Jahrtausends v. Chr. 208 Seiten. 2006.
- Bd. 27 DAPHNA BEN-TOR: *Scarabs, Chronology, and Interconnections*. Egypt and Palestine in the Second Intermediate Period. XII–212 text pages, 228 plates. 2007.
- Bd. 28 JAN-WAALKE MEYER: *Die eisenzeitlichen Stempelsiegel aus dem 'Amuq-Gebiet*. Ein Beitrag zur Ikonographie altorientalischer Siegelbilder. X–662 Seiten. 2008.

Weitere Informationen zur Reihe OBO: www.unifr.ch/dbs/publication_obo.html

ACADEMIC PRESS FRIBOURG
VANDENHOECK & RUPRECHT GÖTTINGEN

Summary

This study presents a revised view of Egyptian foreign relations in the eastern Mediterranean during the Old Kingdom (3rd–6th Dynasties) based on an extensive analysis of old and new archaeological data, and its relationship to the well-known textual sources. The material demonstrates that while Egypt's most important relationships were with Byblos and the Lebanese coast generally, it was an active participant in the geo-political and economic affairs of the Levant throughout much of the third millennium BCE.

The archaeological data shows that the foundation of these relationships was established at the beginning of the Early Dynastic Period and essentially continued until the end of the 6th Dynasty with ebbs, flows and changes of geographical and political emphasis. It is argued that, despite the paucity of textual data, the 4th Dynasty represents the apogee of Egypt's engagement in the region, a time when the centralised state was at the height of its power and control of human and economic capital.

More broadly, this study shows that Egyptian interaction in the eastern Mediterranean fits the pattern of state-to-state contact between ruling elites which was underpinned by official expeditions engaged in gift and commodity exchange, diplomatic endeavours and military incursions.